Towards a General Theory of Shopping Behaviour

Hugh Charles Phillips

A thesis submitted in fulfilment of the requirements of De Montfort University for the degree of Doctor of Philosophy

September 2001

Abstract

This thesis develops an initial theory that attempts to explain certain aspects of the behaviour of shoppers in retail stores. It initially reviews the limited literature currently published in the relatively new area of shopping behaviour. This review reveals that theoretical development in the area has been restricted. In addition, even when general theories have been postulated, problems have been encountered.

Based on theory derived for cognitive psychology, the thesis develops two theories of how customers cope with modern retail formats. It is suggested that stores are too large and complex to be shopped consciously. Consequently, regular shoppers learn to subconsciously process stimuli presented to them in stores. This subconscious processing is based on the psychological concept of schemata – stored subconscious reactions to certain stimuli. This reaction is directed towards attracting the attention to objects of relevance or interest to the shopper.

In order to test derived hypotheses, three separate research steps are presented. The first of these suggests that customers use schemata activated by selective 'cues' in the packaging of products in determining the market positioning of the product. The results of an experiment are reported which show that when the cues are altered, a predictable change in that positioning was achieved. The second research stage demonstrates that women, who tend to be more experienced shoppers, more often tend to use a two-stage decision-making process in evaluating products for purchase. The fact that this behaviour is more prevalent amongst the more experienced gender of shoppers suggests that this behaviour is learned. The final research step investigates actual customer behaviour in stores, as recorded via video cameras. It measures behaviour in relation to different display formats and finds evidence supporting the use of the peripheral vision in attracting attention to displays.

Acknowledgements

May I offer my fulsome thanks to my supervisors Peter Baron and Roy Bradshaw, for their excellent work in shepherding this thesis.

My particulars thanks to go to Prof. Shiv. Chaudhry, Prof. Helen Phillips and Dr George Balabanis, who provided not only invaluable technical assistance but also psychological support. I would like to thank Rob Barker of Visuality and John Cox of Proctor and Gamble for not only their very generous practical support but their constant enthusiasm and valuable insights. .

May I also most sincerely thank Margaret Spence and the librarians of De Montfort University for their highly professional technical assistance. Finally, may I thank Fred and Anna Mear and Deuksoo Kim for their very valuable help.

CONTENTS

GLOSSARY

Stock Keeping Unit – SKU – The lowest level of product differentiation, e.g. a particular size and flavour of a brand.

Customer – In line with accepted retail practice, 'consumers' are usually referred to as 'customers' when they are in the store.

High Street – In the UK the term 'High Street' is used for the main shopping area in a town/city.

Housewife – In line with accepted UK practice, the term 'Housewife', refers to the main shopper in the family and is not gender specific, i.e. there can be male housewives.

Subconscious – There is currently a debate over the delineation between subconscious, conscious and unconscious mental states, which is outside the scope of this thesis. In the text the term 'subconscious' is used in the broad sense of any mental processing of which subjects are not fully conscious of and may also include elements of unconscious behaviour.

Scripts – Except where specifically mentioned in the context of 'strong' and 'weak' scripts, the psychological terms 'script' and 'schemata' are used interchangeably.

Points of Purchase (POS) – The terms 'Point of Purchase' and 'Point of Sale' are used interchangeably in this thesis.

CHAPTER 1 - INTRODUCTION

THE RESEARCH INITIATIVE

Arguably, marketing academics have not particularly favoured retailing in comparison to other sub-disciplines. "The majority of researchers into the use of marketing, (are) heavily biased towards manufacturing firms, with relatively scant attention focusing on retailers" (Greenley and Shipley 1995a). McGoldrick (1990) argues that the literature on retailing has tended to focus on the retailer as a distribution channel, and as such is "a subordinate element of the manufacturer's marketing mix". Piercy and Alexander (1995) go as far as to claim that "the authors have been unable to find any study of the emergence of marketing as a formally organised function in retailing". Retailing is not alone in not having attracted the attention of mainstream academic research. For example, it has been claimed that a similar fate was experienced by Sales Management. Hartley and Starkey (1996) claim that the majority of marketing texts have traditionally viewed the role of face to face selling as a sub-set of the promotional element of the marketing mix. This traditional lack of academic interest in retailing, or equally sales management, probably has a multiplicity of causes including the issue of conservatism in the discipline of marketing, which has recently come to the fore.

The role of academic research in marketing has been receiving attention of late, in part directed towards this very issue of conservatism (Carson *et al.* 1998). The literature on this topic is far too large to be adequately summarised here. However, selected studies illustrate the direction of this debate. Holdbrook (1995), for example, discusses the "commodification" of marketing, in terms of stifling innovation and standardisation. Hubbard (1995) blames the "publish or perish" orientation of academics restricting the will to divert attention to innovative marketing topics. Brown (1995) and Robson (1995) argue that marketing is caught in a (dubious) theoretical framework, that through a process of institutionalisation has become an ideology that favours self-perpetuation, not innovation. These authors are only a small selection of the many who suggest that marketing theory

and/or the institutionalisation of academic marketing has discouraged development of new areas. Alternatively, it may be that the lack of development of the academic study of retail marketing is just (or mainly) a product of the dysfunctions of institutionalisation of the academic study of marketing. It could be argued that the cause lies in the field itself - retailers - in that they have been slow in embracing marketing. 'The development of a marketing function and implementation of the modern marketing concept within retail businesses has been a relatively new development which gathered pace during the 1980's' (Akenhurst and Alexander 1995). Porter (1997) claims that 'many retailers are (still) product focused'. Whatever the reason, the outcome for a student of the area is quite clear - the academic study of marketing, within a retail context, has been distinctly limited.

If retail marketing is still an undeveloped discipline then it would be expected that the facet representing shopping behaviour is equally, if not more, limited. Abrahms (1997) commented that methods of understanding shopper behaviour are 'in their infancy'. This appears to be something of an overstatement. The study of shopping behaviour has been rather more of a series of fits and starts and of specific areas attracting attention. A continuing theme, for example, has been the measurement of the incidence of "impulse" purchasing (see Chapter 4), possibly a reflection of the interest and funding of the professional association, The Point of Purchase Advertising Institute. Similarly, typologies of shoppers have been undertaken on a fairly regular basis (see Chapter 3). A "start" was made in measuring the effect of space elasticity, advertising, pricing etc. on sales (Cox 1970, Curhan 1972, 1974, Chevalier 1975 and others) but this area attracted less attention in the 1980's and 1990's, until a major study by the University of Chicago in the 1990's (Dreze *et al.* 1994). A number of studies around the same time also looked at the sales effect of in-store display activities, (Woodside and Waddle 1975, Wilkinson *et al.* 1982), an area that again was relatively neglected until recently. In the last decade research interest has been rekindled, albeit still relatively modestly compared with, for example, Consumer Behaviour. Whilst research insights are currently gathering in number, a major problem which will be discussed at length in this thesis is that these studies provide insights into specific aspects of shopping but have not generally attempted to develop general theories. The theoretical aspect has been developed in the seminal works of

Tauber (1972) and Holdbrook and Hirschman (1982). Whilst invaluable in the study of the subject, these provide more of a conceptual framework than general theory. Exceptions do exist, in particular Kotler's theory of "Atmospherics" and Iyer's application of "Scripts" (see Chapter 3). Unfortunately, as will be discussed in this chapter, there are reservations about these theories. Thus, at present, unlike that branch of classical marketing, Consumer Behaviour, the equivalent in Retail Marketing, "Shopping Behaviour", is somewhat short of a theoretical basis.

THE REVIVAL OF INTEREST IN SHOPPING BEHAVIOUR

Attitudes towards both shopping behaviour research and its application in in-store marketing have changed in the recent times (Kenhove and Desrumaux 1997, Williams 1997). The current rise in interest in in-store activities is being driven by a number of changes in the environment in which marketing and retailing operates. As marketing is essentially consumer driven it is not surprising to find that a key factor is changes in the consumer attitudes (Oppenheim 1998, Greenley and Shipley 1995b). Consumers are now seen as more educated, sophisticated and cynical (Duncan 1997, Owens 1997a, Murray and O'Driscoll 1995 and many others). 'Consumers are no longer prepared to give unconditional applause. They have become unforgiving cynical creatures. As one woman told me with great determination, 'these companies should realise that we're not as stupid as we used to be'' (Oakley 1996). Similarly the consumer is seen as more confident. 'Consumers have become authors of their own destiny, writing their own personalised vision of themselves' (Whitehead 1997). An aspect of this confidence is that they now have the confidence to make choices in-store, use the store itself as a prompt, rather than pre-planning their purchases (Mitchell 1988). An important consequence of these changes is the trend to postponing of the product decision until being in-store. Recent research from the Point of Purchase Advertising Institute found that in-store decision making in supermarkets was 70% (that is for 70% of products purchased, the final decision as to which to buy was made in the store itself), (In-store Marketing 1997a). Thus if marketing is to be true to its philosophy, it must adapt to changes in the consumer. If consumers are

postponing decisions until shopping, then it needs to understand and adapt to this very change.

Another factor generating interest in in-store activities has been the rise of Category Management - the concept of manufacturers and retailers working together to develop sales of a total product field, using their different but complimentary skills. Category Management strategies have increasingly focused attention on in-store factors (Bailey 1997, Bond 1996). This focusing is based on the need to address consumer needs in-store, which is one area of mutual benefit to both manufacturers and retailers (Hertel 1998, Orgel 1997). Gustafson (1997) summarises the need for this change, stating that 'the traditional roles of retailer and manufacturer and their respective relationship with the ultimate consumer are constantly being challenged in today's market place'. Oddy (1997) similarly focuses on the need to understand the shopper 'the aim (of Category Management) now is to understand shopper typology and buying mode and to merchandise displays that will appeal to real customers'. The rise of Category Management, as part of the modern orientation of key account relationships, has therefore prompted renewed interest in the role of the shopping in marketing strategy.

A further impetus has come from the retailers themselves. They have found themselves facing issues necessitating a better understanding of their customers. A key factor is the creation of a competitive sustainable difference, at a time when as a result of 'increasing market saturation, stores tend to resemble one another' (Groppel 1993). Similarly Davis (1996) comments, 'there is a growing similarity between many stores on the High Street'. This trend to conformity or uniformity has occurred when retail sales in most markets have become static. Thus as organic growth is in most cases not forthcoming, sales growth needs to come from increasing market share. This has lead to retailers searching for sustainable competitive differences in the eyes of the consumer. This has focused the attention on shopping experience. 'Retailers risk losing customers to more innovative competitors, unless they stem the trend towards bland, undifferentiated stores' (Davis 1997). Retailers have also had to address the modern sophisticated consumer, they 'have trained shoppers to expect more from every aspect of the shopping experience' (Stewart-

Allen 1997), the modern retailer needs to make shoppers "feel good" about shopping (May 1997). At a time of apparent saturation and similarity, retailers wishing to establish differentiation need to understand their customers - the shoppers.

Thus, the increased focus on the shopper is coming from both the supplier and retailer sectors. Understanding shopping behaviour and motives appears to be an integral part of modern marketing and retailing. Abrahams (1997), with again a degree of overstatement, claims that if the insights into shopping behaviour are ignored, 'the classic techniques of product development, pricing, advertising and promotion will be completely wasted'. Therefore, whilst the study of shopping behaviour has always been of some - if limited - intrinsic academic interest, the recent growth in interest has reflected an increasing need to understand the consumer - when they adopt the role of shopper - to address real needs in the market place.

ACADEMIC RESEARCH

The increased interest in shopping behaviour is reflected in a rise in academic research into the area. Whist the research into shoppers is reported in a variety of journals - from marketing to social psychology - the leading journal in the area of retail research is arguably the Journal of Retailing. An analysis of the articles pertaining to shopper behaviour, out of the total articles published is shown below.

Table 1 Research in Shopping Behaviour

Years	Number of Articles Featuring Shopper Behaviour	Total Articles	Shopping Behaviour as % of Total
1983/84	2	41	5

1985/86	4	36	11
1987/88	2	35	6
1989/90	8	43	19
1991/92	10	34	29
1993/94	15	38	39
1995/96	10	39	26
1997/98	27	44	61

Source: The author

It should be pointed out that this categorisation is broad, it includes any article that makes reference to shopping behaviour however oblique or as only part of a broader study. Even given this, Table 1 shows a marked increase in the number of articles published about shopper behaviour over time, with a noticeable increase in the 1990's. Thus it seems the research community has elevated importance of the topic, though by no means to the level of Consumer Behaviour, with its own dedicated journals, associations, conferences etc.

Research is of course only one aspect of the role of an area in the academic field. The role of a subject area in textbooks is another measure of the standing or importance of an area. One of the leading texts, at least in terms of sales, in the area of "Consumer Behaviour" is of course Engel *et al.* (1995). In their 1982, fourth edition, they make no reference to shopping. In line with the McGoldrick's observation cited earlier, the retail dimension is subsumed under the concept of Distribution Channels. They paid homage to the importance of the retail function but merely in terms of 'how smoothly the ...distribution systems function, it is the retailer who either consummates or obstructs the sale'. The growth of interest in the retail dimension by consumer behaviourists is reflected by the dramatic increase in at least pagination devoted to the topic. In the 1995 edition, a whole chapter is devoted to retailing including 13 pages on "the in-store decision making process", plus the retail dimension is featured in other sections of the book, for example, under "situational influences". Another "best-seller", Louden and Dela Bitta have historically devoted much more space to the in-store dimension. Their fourth edition in 1993 follows a similar format to the recent Engel *et al.* text. The chapter, "The Purchasing

Process", covers the retail dimension. If best-selling textbooks are an indication of academic acceptance, then these texts reflect that at least consideration of the shopping environment has come of age. Whilst these classic texts illustrate a growing interest in the in-store situation, other texts are less forthcoming. Another widely used text, Schiffman and Kanuk, even in their fifth edition, 1994, hardly mentions the retail dimension, in any context. Wells and Prenskey (1996) include in-store factors in their chapter on the "Influences on Purchase and Usage Activities" but only so far as to list a few "situational influences" in purchasing behaviour and a brief reference to mood. Apart from this they consider that the main impact of in-store factors is the effect of out of stocks. Hoyer and MacInnis (1997) manage to virtually dispense with the area. Despite devoting about half a page to "impulse/unplanned purchasing", where the product decision is made in-store, they do not explore this further either here or elsewhere. Their neglect of the area is illustrated by the comment concerning the nature of the "external" information search used by consumers. "Mass media and market-related sources tend to be more influential at the early stages of the process, and interpersonal sources more critical when the actual decision is made". Given the evidence that the majority of decisions are now finalised at the point of purchase, this seems a case of marked tunnel vision! The review above only covers a number of the Consumer Behaviour textbooks currently in circulation. However, it does illustrate that at least some of the leading texts do recognise that the in-store situation and, to a lesser extent shopping behaviour, is germane to this area of academic study.

In the next chapter the relationship between shopping behaviour research and classical consumer behaviour theory will be discussed at length. The analysis of textbooks provides an interesting precursor to that discussion. As already mentioned, some pay scant attention to the area. Those that do focus on the topic, do so with a degree of isolation of the topic. For example, in the Engel *et al.* and the Louden and Dela Bitta texts, the bulk of coverage given is in a separate section. Whilst reference is made in other sections, this is sporadic. This suggests, as will be argued later, that shopping behaviour is seen as distinct to general theory in this area and is not that well integrated. The texts also reflect the earlier observation about the lack of general theory in the area. The great majority of the material is devoted to factors that retailers believe influence sales, without detailing how this

manifests itself in terms of its impact on customers or detailing any theoretical basis. There is certainly no shortage of theories of behaviour in textbooks on Consumer Behaviour. Thus at first sight it is surprising to find that the material on shopping has not been integrated into the general theories of consumer behaviour expounded at length elsewhere. As will be developed in the next chapter, there may be good reasons for this lack of integration.

Therefore, shopping behaviour does seem to have been accepted, at least recently, as an area of valid academic study, though on a considerably more limited basis than the established areas of marketing scholarship. The traditional, comparatively low, interest may be a factor of the suggested innate conservatism of marketing scholarship or the lack of interest in marketing within the retail trade until recently. Whatever the reason, interest is now being driven by significant changes in the environment in which marketing operates, necessitating more focus on the consumer as a "shopper". However, as a new area of study, as might be expected, the theoretical basis is currently somewhat slim.

THE LITERATURE GAP

The previous section has established the context of the research and identified Shopping Behaviour as a legitimate subject of academic research. As stated, the field is in its relatively early stages of development and as such there is a lack of general theories. As has been touched on earlier, the area has not been subsumed under the general field of "Consumer Behaviour". As will be discussed in more detail in Chapter 2, there are inherent difficulties in subsuming Shopping Behaviour under Consumer Behaviour, at least as the latter is currently promulgated. It is the intent of this thesis to address this lack of general theory, to at least approach the development of a general theory, in one particular aspect of shopping behaviour.

THE ROLE OF SHOPPING IN SOCIETY

Shopping has a major role in both society and the economy. As such, the development of a greater understanding of the area is not only an academically acceptable endeavour but also a valid activity in terms of external relevance. As an industrial sector retailing is immense. In 1996 turnover in the UK was £176,550 m, with 2,364 million employers it constituted the largest single occupational category - accounting for just over 10% of the total work force (Annual Abstract of Statistics 1997). As one of the largest industrial sectors, it obviously has major repercussions on other areas of the economy. As an employer and a major purchaser of goods and services, many organisations and individuals are in part or whole dependent on the health of the retail sector (Anderson 1993). The economic importance of the buoyancy of the retail sector extends beyond this direct buying power. As the great majority of consumer goods are purchased from retailers, it is the conduit for consumer demand and spending. Consequently, the level of activity has significant effects on the economy as a whole. For example, the lack of retail sales to stimulate the economy was a major issue for the last government. In 1996, the Economist wrote "vigorous consumer spending is now widely seen as the main hope for faster economic growth this year...certainly the government is desperate for growth to boost its flagging electoral chances". The current government is equally cautious over the effect of retail sales in disrupting the economic health of the country. Thus shoppers' activities can even have a major effect on the economy and political success of governments.

The relevance of shopping to society is much more than its economic effect. It effects the clothes we wear, the food we eat etc. and the goods and services we choose, it determines our standard of living and reflects our life styles (Lucas *et al.* 1994). Recently the very important extra economic significance of shopping has been realised. As will be discussed in Chapter 3, shopping has major social and psychological significance for individuals and society. For many, for example, it represents an important recreational activity (Bloch *et al.* 1994, McCarthy 1990, Boedeker 1996 and others).

Thus beyond the considerations of academic credibility, the study of shopping behaviour has relevance in wider areas of society, the economy and even politics. Given the changes in consumer behaviour and the increasing significance of shopping to marketing discussed earlier, it is an area of research that has never been more important.

STRUCTURE OF THE RESEARCH PROCESS

This thesis examines the nature of shopping behaviour and attempts to develop a hypothesis that will explain at least in part, the somewhat fragmentary and at times apparently contradictory beliefs about this activity (Hackett *et al.* 1993). The central hypothesis that is developed during this project is that many key aspects of shopping behaviour are based on learned sub-conscious processing of data in the store environment.

The research falls into the field of shopping behaviour research, which as stated earlier is attracting renewed academic interest, rather than the more classical Consumer Behaviour remit. As will be discussed, there are certain highly material differences in the approaches of the two disciplines. Research has also shown that shopping behaviour is complex and multifaceted. Therefore, as would be expected, the research is interdisciplinary. Incursions are made into such areas as economics, anthropology, psychology and postmodernism, as well as marketing.

RESEARCH METHOD

The Approach

This thesis considers the issue of how customers shop in retail establishments and proposes a general theory that could account for at least certain aspects in their behaviour. The research adopts an "empiricist" perspective, whilst using insights from other traditions, ethnography, postmodernism etc. The central hypothesis does conform to the post positivist dictate of being at least, in theory, refutable or falsifiable (Popper 1959). This underlying hypothesis, which concerns subconscious processing of stimuli in stores, is not

at the present state of technology testable per se. There is no apparent method of assessing whether a person is processing data subconsciously or consciously, except by methods of which the subject would be aware. For example, subjects could be required to wear the headsets used for "Eye Mark Recorders", which would give some indication of their conscious state. However this is a very conspicuous apparatus. Thus any attempt to directly measure the central hypothesis, at this stage, would be in danger of creating a "test effect" and potentially invalidate the research, c.f. the classic Hawthorn Study (Roethlisberger and Dickson 1939) or as summarised by Zikmund (1994, p298) 'people will perform differently when they know they are experimental subjects'.

Therefore, the nature of the thesis will be the development of a hypothesis and via secondary and primary research offer evidence that provides a degree of substantiation of this hypothesis. Conventional market research wisdom consigns all research that has not met the standard of "causal" to either "exploratory" or merely "descriptive" (Churchill 1995, Kent 1993 and many others) however, Heiman (1995, p21) states that in practice, it is frequently impossible to aspire to this degree of perfection. 'Some behaviours cannot be studied in a completely empirical, objective, systematic, and controlled manner. For example, we cannot be totally empirical when studying "thinking" because we cannot directly observe thinking. Instead we must observe some other behaviour...from which we can draw inferences about the unseen behaviour'. Robson (1993) similarly suggests that in the human arena, much research falls well short of the positivistic ideal without invalidating that research. Confirmation is obviously key but particularly relevant to this study, he states that 'another tactic is to acknowledge that any one way of measuring or gathering data is likely to have its shortcomings and hence to take the multi-method approach' (p69). Similarly, Ozane and Hudson (1989) discuss merits of "triangulation" or using a number of approaches in the search for understanding. The research approach adopted in this thesis is via a review of secondary data and four primary research projects, to provide at least a reasonable degree of substantiation of the central hypothesis.

Methodology

The structure of the thesis follows a relatively conventional format. Firstly, the secondary research is reviewed. From this certain tentative conclusions are drawn. These are subsequently evaluated via primary research. As discussed earlier, currently it is not technically feasible to test this hypothesis directly. Therefore, four separate research projects have been submitted, each providing a degree of substantiation of this hypothesis. The research methodology, in each case, uses conventional market research techniques, surveys, qualitative research and in two cases observational research. Each of these four research projects is summarised separately.

Whilst separate research steps, however, the project constitutes a consorted approach to evaluating the central hypotheses. As such, they reflect the "triangulation" approach suggested by Ozane and Hudson (1989). Each of the apparently separate research projects reflects an aspect of one or other (or even both) of the central hypotheses. Whilst not directly substantiating either or both, they build up a picture of evidence for the central hypotheses. Whilst substantiation is indirect, as discussed earlier, this is often the fate of theories in the field of research into human behaviour. Thus the cumulative building of evidence, via the individual research steps, adds additional weight to the central hypotheses.

The three research steps appear as separate chapters following the literature review and hypothesis development.

Chapter 6: Packaging
Chapter 7: Choosing Products
Chapter 8: The Impact of Displays

The first step in Chapter 6 explores the affect of visual cue structures as a market positioning tool. The second step in Chapter 7 examines the choice process undertaken by consumers when selecting a purchase. Finally, the third step in Chapter 8 pursues in more

detail the use of peripheral vision in the customer's product scanning process identifying both sub-conscious processing of the in-store environment for products of interest followed by conscious evaluation. Each of these steps identifies an appropriate but distinct empirical test procedure available to the researcher within a limited resource base. Resource restrictions together with measurement complexities meant that of necessity a variety of products had to be used as the basis for experimentation and re-emphasized the need to present results in three separate chapters.

These individual research elements are consolidated into the central, overriding, theoretical development in the concluding section, Chapter 9. In this summary, not only are the individual research elements related to the original hypotheses but the theoretical direction is advanced even further, albeit on a speculative basis. In summary, the research in this thesis attempts to develop theoretical understanding in a new area for academic consideration, it is thereby of necessity of a somewhat exploratory nature. Without the comfort of an established, accepted, theoretical frame work, the use of a multi-stage research approach to explore somewhat virgin territory, appears appropriate. It reflects the breadth of the field, whilst as will be shown these research steps do converge in reflecting a unified set of underlying principles determining behaviour in this area. In other words, they represent classic particular cases of general underlying theory.

ORGANISATION OF THE THESIS

Chapter 2 will consider the definition and nature of the field of study - shopping behaviour. In particular it will review two of the traditional approaches to this area - that of classical economics and marketing. It will show that both cannot adequately explain behaviour in this area. The chapter will present some of the alternative conceptual frameworks that have been postulated in this area of study.

Chapter 3 will review the literature on the interaction between the individual and the shopping environment. In particular it will consider the "experientialist" approach which provides the generally accepted conceptual framework for this relationship. It reviews the

evidence that differences in shopping behaviour can be accounted for by differences between individuals and concludes that the relationship is unproven. In a similar vein, the relationship between environmental differences and shopping is reviewed. Whilst a relationship is found, the literature does not explain the nature of this relationship.

Chapter 4 considers the relatively extensive literature on unplanned purchasing (often called impulse purchasing). The review of the incidence of unplanned purchasing reveals that it is a significant factor in purchasing. A subsequent critique of the literature focuses on factors that are associated with this activity. This shows a lack of identifiable relationships with intrinsic or intra personal factors. In contrast, the relationship with extrinsic or environmental factors is manifest, though again no theory appears at this stage to explain this relationship. Finally, the two main theories of shopping behaviour developed to date are reviewed - Iyer's theory of Scripted Behaviour and "Atmospherics" theory. The evaluation of these theories shows that both suffer from problems, at least in terms of their operationalisation. Finally, the reasons for the lack of theoretical development in the field of shopping behaviour are discussed and an alternative theoretical approach suggested.

Chapter 5 deals with the psychology of selective visual cognition. The limitations of the human attention span are contrasted with the complexity of a store. The first hypothesis developed is that in order to cope with this complexity, shoppers use learned, subconscious, behaviour that reduces the demands on the attention span to manageable proportions. The review of the psychological literature also reveals that (selective) attention is based on the meaning or relevance of the stimulus. This leads to the second hypothesis, that the aspects of a store which are selected to be visually processed by shoppers are based on the meaning or relevance of those aspects.

Chapters 6, 7 and 8 consider the evidence for these hypotheses. Chapter 6 outlines original research on the perception of the positioning of a brand derived from its packaging. It shows that consumers use highly selected cues or clues contained in the packaging design to ascribe a market positioning to a brand. These cues it is suggested are learned.

Research evidence is presented which shows that redesigning crisp packaging on the basis of such an analysis of cues altered the perceived market positioning of the two brands involved.

Chapter 7 concerns how customers select products to consider for purchase in-store. It presents two research projects, one qualitative and the other quantitative. These show that some customers use a two-step process. In the first step they reject, against very simple criteria, those products that they consider not relevant. In the second step they consider the few remaining in more detail, weighing up relative benefits. The implication is that this selective heuristic reduces the attentional effort required to review products in-store. Of particular importance is that evidence is presented that this process is learned behaviour.

Chapter 8 considers the role of scanning and the peripheral vision in shopping. It reports on the results of two observational store tests. The first reveals that customers 'scan' products rapidly, at a speed that would not be compatible with conscious processing. The second test involves an experiment, in which changes were made in the merchandising of a display, which it was hypothesised would have a higher propensity to attract the peripheral vision. The results show major increases amongst passing shoppers noting or observing the display, which appears to support the hypothesises. The conclusion drawn is again that selective subconscious processes are at the basis of customers' perception of stores.

Chapter 9 summarises the results of the original research presented in relation to the literature reviewed in earlier chapters. It discusses the implications of this analysis and develops speculatively the theoretical implications. Finally it relates the research findings to commercial practice, in terms of retail and category management practises and makes recommendations in terms of implications of the research in these areas.

CHAPTER 2 - THE FIELD OF STUDY

INTRODUCTION

The previous chapter highlighted that historically shopping behaviour had not attracted academic interest, a situation that it was claimed is to some extent improving. It also dealt with the question of general theory in the area. At first sight it would seem that general theory in the field of shopping behaviour should not pose a problem, as shopping could be considered to be a sub-set of purchasing behaviour. In this latter arena, two classical paradigms are readily available - those provided by economics and marketing. In this chapter, it will be shown that these classical approaches are not necessarily appropriate to the field of shopping behaviour and this area of activity cannot be subsumed as just a sub-set of the general theories in those disciplines - in fact it can be considered to be conceptually distinct.

ECONOMIC THEORY

Specific reference to shopping behaviour does not appear to feature in the economics literature. In fact, there are few explicit references in the economic journals to consumer behaviour in general. Most references to consumer purchasing assume, a priori, Expected Utilities theory and Basian logic. Giboa and Schmeidler (1995) typify this approach; 'expected utility theory enjoys the status of an almost unrivalled paradigm for decision making in the face of uncertainty'. Tuck (1976) also aptly exemplifies this approach, following a damning attack on consumer behaviour theory she concludes 'neither cognitive consistency theory nor functional theory are in fact of any great use to those who wish to understand and specify the determinants of choice... However, the school of psychological study of attitudes which I have called "expectancy value" school is not despairing. A clear testable theory of the relationship of underlying concepts such as beliefs and attitudes to behaviour and to choice has been proposed by this tradition' (p72, 73). More recently Boland (1988) discussing consumer behaviour makes the statement, 'any two individuals

with the same utility function and the same income facing the same prices will choose to consume the same quantities of goods so long as the individual aims to maximise his or her utility.' Some economists appear to be determined to reduce all behaviour to Baysian logic, reaching conclusions that are somewhat bizarre. Pesendorfer (1995) even asserts that the appeal of fashionable clothes is that their higher cost signals the social status of the wearer to other "High Types". This allows their wearer to attract other "High Types" to them, which he claims is their only utility, as design itself adds no value. When the fashion becomes widespread amongst "Low Types", the clothes lose their value or utility and it is necessary to introduce a new fashion. On the basis of this he claims to have discovered the sole basis of fashion cycles!

Whilst this focus or even fixation with Baysian logic is possibly understandable in the study of economics, it is also reflected in many of the classical texts in marketing. For example:

> "Generally speaking...human beings are usually quite rational and make systematic use of the information available to them...people consider implications of their actions before they decide to engage or not engage in a given behaviour." (Ajzen and Fishbein 1980, p5).

> "By problem solving we refer to thoughtful, reasoned action undertaken to bring about need satisfaction." (Engel *et al.* 1994, p26).

> "The consumer is assumed to have a utility function for each attribute (of a product). The utility function shows how the consumer expects total purchase satisfaction to vary with different levels of different attributes." (Kotler *et al.* 1996, p293).

Severe doubt has been cast on the 'Economic Man' model as being able to provide the sole or even primary explanation of purchasing behaviour. Rutherford (1988) for example

writes, 'it is no longer uncommon to find economists other than institutionalists expressing doubts concerning the empirical validity of the concepts of rational behaviour contained in the standard theories of the maximisation of expected utility and Bayesian revision of subjective probabilities.' Similarly, Bhat and Reddy (1998) write 'a number of researchers...contend that the rational model is appropriate only for goods which consumers value for their tangible benefits, and does not adequately capture their motivation for consuming products that satisfy their emotional wants'. Shackle (1979) points out that much of the early work on statistics and probability theory was based on games of chance. The relevance of this to everyday decision-making can be seriously questioned: 'probability, as a set of conceptions arising from games of chance, formal games where what can relevantly happen is laid down as a definite, specific and finite list of classes of contingencies, that any contingency, any result of play, can be easily and simply classified: probability in this sense has been a distracting and misleading influence on the study of (this) aspect of the human condition'.

Simeon (1978) suggests that decision-makers frequently carry out sub-optimal decision-making processes, using a process called "satisficing". This approach suggests that optimisation is only carried out to the degree required by the particular decision and that the degree or level of search is related to the perceived risk. The decision-making process will be terminated when the subject believes that a sufficient level of security has been reached, the latter varying according to the perceived risk involved in the decision. In other words, decision makers will be satisfied with approximations when calculating expected utilities or probabilities - the lower the perceived risk, the greater the approximation. As most consumer decision-making is relatively low risk (Hoyer 1984), it is reasonable to assume that where the approach is used by customers, in typical High Street retailers, it is liable to be of limited scope and involve a sub-optimal solution.

In contrast to the classical economists' view, the empirical evidence presented in the following chapters shows that in shops, purchasers act to a significant degree in a psychologically satisfying rather than rational-deductive manner. It will be shown, for example, that the purchasing process is inherently highly selective and that the criteria used

in decision-making may be determined by psychological and physiological criteria as much, if not more, than rationalistic criteria. A key element is the influence of the environment in prompting and/or modifying purchasing behaviour. As a result, a high level of unplanned purchasing and brand switching occurs which cannot be explained by the theory of expected utilities.

Declining to accept the Economic Man model as the sole or primary explanation of purchasing behaviour does not exclude the use of the concept that customers weigh up alternative outcomes in evaluating the relative benefits of the products. As will be discussed in Chapter 7, the rational comparison of utilities etc. is not rejected out of hand but rather that 1) it does not provide a comprehensive explanation of shopping behaviour and 2) where it does occur it is liable to be of a limited nature.

Marketing/Consumer Behaviour Theory

In the previous chapter, it was noted that whilst shopping has been acknowledged in at least some of the texts on consumer behaviour, the subject has tended to be treated as an isolated topic, not integrated into the general theories in this area. There may be good reasons for this lack of integration, which will now be explored.

The lack of synergy between the two subjects is partly based on the distinction drawn by commentators between shopping and acquisition motives. In his seminal article Tauber (1972) writes 'the question as to... "why do people shop?" The most obvious answer "because they need to purchase something" can be a most deceptive one and reflects a marketing myopia which management has been cautioned to avoid - a product orientation. This answer considers only the products which people may purchase and is but a partial and insufficient basis for behavioural explanations. It implicitly assumes that the shopping motive is simply a function of the buying motive'. Alexander (1970) is even more dogmatic, stating that 'it has been argued that a distribution system is only a mechanism for the exchange of goods and services between producers and consumers...This argument

reveals a remarkable lack of understanding about the organisation of social systems and the complexities of interaction among parts of the system. (p1)'

The distinction being drawn between shopping and classical marketing theory is based on the complex, sophisticated, psychological and social variables inherent in shopping that are distinct from the motivation to acquire the products and services. This distinction is greater than just that between the means and the end - shopping being the means and the acquisition being the end. Shopping can be an end in itself (Woodruffe 1997). 'Consumers gain satisfaction from shopping itself apart from that available from the products which may be purchased' (Bloch and Ruchins 1983). 'Shopping itself as a whole range of activities - browsing, window-shopping, a shopping "trip" or excursion - seems to have special significance for many consumers, particularly women' (Woodruffe 1996). This point is aptly illustrated by browsing activity - where there is no manifest purchase intent. Thus the Retail Week Year Book (1998) commentating on a survey it commissioned, stated 'clear evidence came from this survey that shopping was perceived as a leisure activity...A stunning 47% of visitors to the sales claimed that they had simply wanted to browse'. McCarthy (1990) in fact goes as far as to state, with perhaps some exaggeration, 'people don't shop for a coat or shoes. They shop to fill an emotional need'.

Thus whilst the same behaviour is being investigated, those aspects of that behaviour that are regarded as being significant to researchers in **the different areas** (marketing and shopping behaviour) and upon which their hypotheses are developed, may well vary. Obviously, as the behaviour selected as relevant varies between approaches, then one would expect different models to be derived. Hughes (1990, p), commentating on the different approaches of different disciplines, wrote 'the concepts that are measured are chosen as a consequence of (different) postulates and laws and can be empirically interpreted in many different ways according to circumstances...giving rise to very different empirical interpretations'. As a consequence of the inherent selectivity of any (scientific) enquiry, different models will be produced.

This distinction between shopping and marketing fields of research is also based on the differences in the conceptual frame of reference adopted by the two subjects. Most contemporary commentators on shopping behaviour embrace the "Experiential" approach based on the "Thick Approach" to social science (Parker 1991). This approach highlights that (much) behaviour cannot be understood without an understanding of, and reference to, the cultural context within which it is enacted (Van Maanen 1988). This concept allows the researcher to draw a conceptual distinction between the need or desire to acquire products or services and the cultural environment in which this need/desire is actualised. This methodological difference results in the shopping behaviour theorist taking a potentially much broader view of the behaviour under consideration - compared with the marketing specialisation, the former incorporating more of the environmental context of that behaviour. Again different approaches will yield different models. 'In the social sciences researchers will approach their subjects with one or more models developed within one of many different disciplines. These models are simplifications of complex reality' (Shipman 1988). In other words, in theory there is no controversy between marketing and shopping behaviour research, they are just using different perspectives; as such they should not be expected to be necessarily compatible.

Demand

Following this differentiation, in terms of the perspective of the two disciplines, a distinction can also be drawn in terms of the perspective towards the concept of "demand". The concept of "demand" is central to in the study of marketing.

> "Marketing management has the task of influencing the level, timing and composition of demand in a way that will help the organisation achieve its objectives. Marketing management is essentially demand management" (Kotler 1997, p15).

> "Marketing is an activity which, inspired by its basic philosophy, and working closely with other specialist functions, helps to stimulate demand" (Chisnall 1992, p19).

The concept of "demand" used in this context perhaps needs clarifying. In economics, its usage tends to be equated with sales levels or potential sales levels. As marketing is not isolated from economics, the term is at times used in this sense. For example, Kinnear and Taylor (1991) state, 'this definition stipulates that the market demand for a product is the total volume that would be purchased by a defined customer group in a defined time period and geography (p707).'

The alternative sense is that "demand" is a psychological state - the predisposition to buy a product. The role of marketing is to understand and influence or channel this predisposition. It could be said that this concept of demand lies behind that of the economist. It is this second concept of "demand" that is being considered here. The seminal works of Azur and Fishbein (1980) and Howard and Sheth (1967), for example focused on the propensity to act (purchase a product) rather than motivating actual sales. In their book "Consumer Psychology for Marketing", Foxall and Goldsmith (1994) deal at length with the fallacy of assuming a direct relationship between intra-personal states and behaviour. They also point out that this is a major misconception. 'The assumption, once accepted uncritically in both social psychology and marketing, of a direct correspondence between an individual's general attitude toward an object and his or her specific behaviour with respect to that object is not justified by the empirical evidence'. Evans (1991) also points out difficulties in the relationship between attitudes and norms and intended behaviour. Thus a distinction can be drawn between 1) the demand or predisposition to buy a product and 2) purchasing or the actualisation of that demand/predisposition. The former would appear to belong to the remit of the marketer and the latter, in most consumer markets, that of shopping behaviour.

This centrality of the demand concept, often to the exclusion of the actualisation of that demand in store, can be illustrated by reference to some of the literature in the marketing

domain. Lodish *et al.* (1995) studied the question of the relationship between advertising weight and sales response. The lack of a direct relationship was explained in terms of market factors e.g. saturation, rather than conceding that the relationship might not be as they describe it - "monatomic". This was despite the fact that their research showed that store displays had a major effect on the relationship. Bemmaor (1995) related purchase intent to actual buying and found a somewhat vague relationship between the two - as predicted by Foxall. Despite this, the author concludes that the (lack of) predictive ability of buying intent is a result of lack of understanding of 'the dynamics of purchase intent', explanatory variables and timing issues, rather than intent or predisposition is only one element in an interaction with the purchasing environment. Similarly, Hutchinson and Marchant (1995) claim that product preference is the 'key to understanding markets'. Deighton *et al.* (1994) claim that the only influences on brand choice are 'advertising, previous purchase, promotion, price and brand preferences' - all these are of course demand related factors.

This conceptual distinction between the predisposition to buy a product and its actualisation is important as 1) it reinforces the distinction made by Tauber between the purchasing/shopping and acquisition motive and 2) defines the remits of the subject areas of marketing and shopping behaviour. Roughly speaking, it would seem that "Marketing", as currently defined, focuses on the creation of demand and shopping behaviour on the actualisation of that demand in store.

RESEARCH METHODOLOGY

There is potentially a further distinction that can be drawn which is in terms of research methodology. The dominant paradigm of classical marketing is empiricism or "positivism", if somewhat loosely defined and perhaps aspirational in many respects (Robson 1995). Admittedly this approach is being currently questioned (Foxall 1990, Hunt 1993, Brown 1995 and others) but as yet "empiricism" still appears to dominate the great majority of research. As probably befits a new field of research, the study of shopping behaviour is currently multi-disciplinary, as such is catholic in its approach to research

methods, from the empiricist tradition, to ethnography and post-modernism. This has the advantage that the variety of approaches addresses the breadth of the subject; authors tend to use the methodology most appropriate to the aspect they are investigating. The drawback is that attempts to collate finding in the field can lead to a potential bewildering variation in research approaches. In particular, insights may be based on approaches that classical marketers might find unconventional and difficult to reconcile with their more conventional approach.

Thus, the study of shopping behaviour appears to be distinct from marketing both in terms of its approach and its subject matter. This apparent lack of synergy between different aspects of related fields may seem surprising to an external observer - however it has been noted that this lack of synergy between areas of study is not uncommon in marketing (Coviello *et al.* 1997).

DISCUSSION

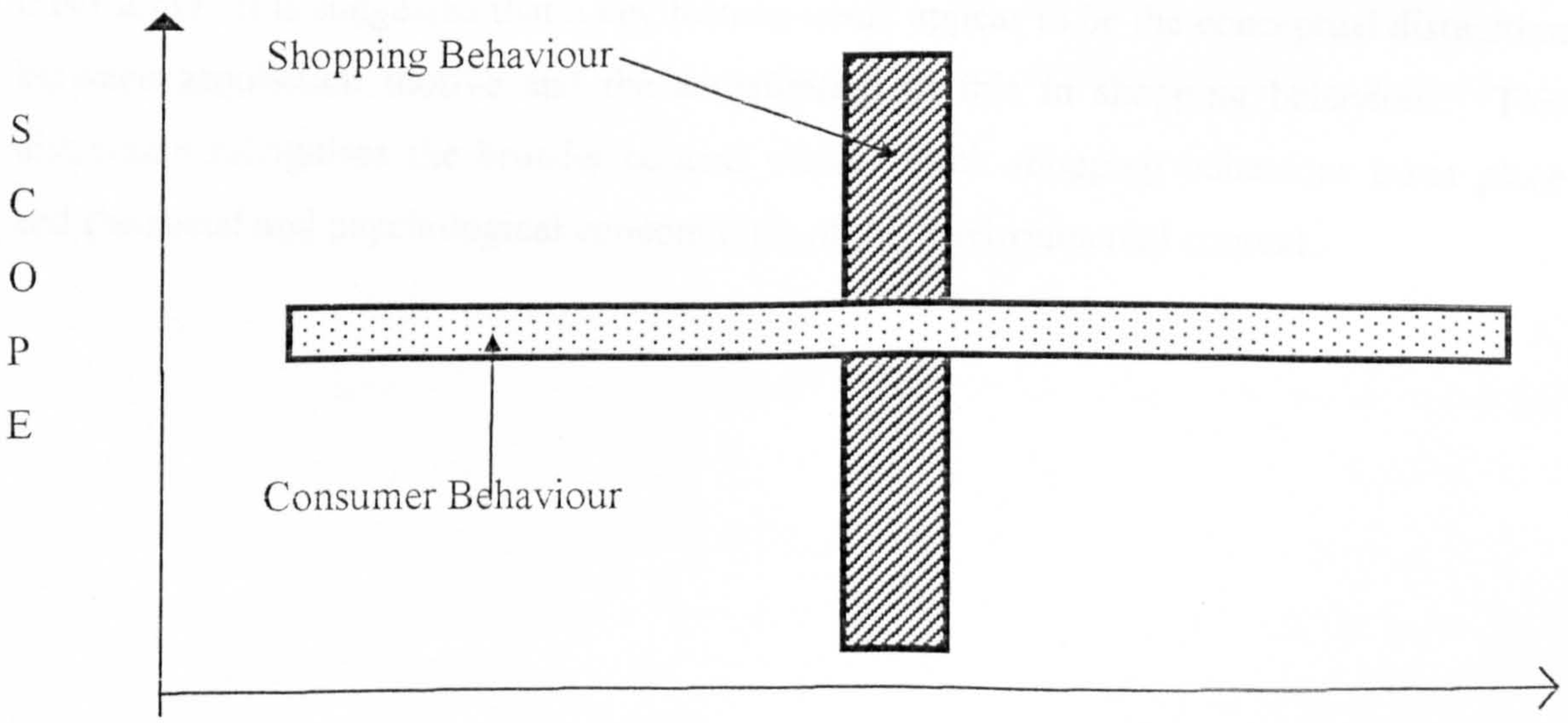
Writers in the field of shopping behaviour have not elaborated on the relationship of their area of study and that of marketing or economics (as the quotations featured earlier show, they have dismissed marketing or economics concepts as irrelevant!). It is suggested here that speculatively the relationship and thereby the distinction may be based on temporal differences and breadth of conceptual abstraction. A key difference appears to be that of the temporal span involved. Marketing/Consumer Behaviour considers the acquisition process over time, with its antecedents, post-purchase evaluation, disposal etc. For example, Hoyer and MacInnis (1997) write 'the study of consumer behaviour actually involves understanding (1) the set of decisions (what, whether, why, when, how, where, how much, how often) (2) made about the acquisition, use, or disposal (3) of products, services, ideas, or time (4) made by one or more decision-making entities (5) over time'. Thus a consumer may have built up brand loyalty to say "Head and Shoulders" over many years of experience. In contrast, according to information supplied to the author by Proctor and Gamble, it takes on average 50 seconds to select a shampoo brand in a store.

Shopping behaviour, it could be suggested, considers only a very limited slice of time - what the consumer does in-store. The time-frame can be completely different.

The scope of behaviour and experiences subsumed under shopping behaviour appears to be a further differentiator. If one accepts the experiential approach to shopping behaviour, the context seems much broader. All knowledge is, of course, essentially an abstraction - Consumer Behaviour can be seen as the abstraction of those factors related to demand. Thus, Antonides and van Raaij (1998) suggest that Consumer Behaviour is based on the 'values, identity and needs (that) lead to goals and behaviour'. As such, it is bounded, restricted to these specific elements. As will be shown shopping behaviour is catholic in its approach and in particular focuses on factors not directly related to acquisition e.g. browsing, social interaction etc.

Thus a Laurel and Hardy distinction could be suggested between the two approaches - one long and thin, the other short and fat, or diagrammatically in figure 2.1:

Figure 2.1 - The difference in Shopping Behaviour and Consumer Behaviour



Finally, there is no logical necessity for insights developed during the study of purchasing behaviour from the perspective of shopping, to be compatible with those developed from other perspectives. All theories are "bounded" and are limited by the perspective they adopt. Thus shopping behaviour theory can be distinct from insights developed in other disciplines, despite the fact that they also focus on purchasing behaviour. The models and theories are not necessarily opposed or incompatible, it is simply that they approach the subject from different conceptual frames of reference and as such provide valid insights within this conceptual field.

Having established that "shopping" is a distinct field of study, the next chapter will consider the current themes and perspectives in this discipline.

SUMMARY

Shopping behaviour, it would appear, cannot be assumed under the auspices of the classical theories of purchasing behaviour developed in economics or marketing. To assume that it is just a particular instance of general theories in these areas can be misleading. It is suggested that a key feature would appear to be the conceptual distinction between acquisition motive and the actualisation of this in shopping behaviour. This distinction recognises the broader context within which shopping behaviour takes place and the social and psychological concomitants of this environmental context.

CHAPTER 3 - THE INDIVIDUAL AND THE ENVIRONMENT?

INTRODUCTION

In this chapter current themes in the study of shopping behaviour will be considered. In particular, the issue of the interaction between the individual and the shopping environment will be explored. The preceding chapter suggested that shopping is the actualisation of demand (an intrinsic factor) in the market place (an extrinsic factor). Commentators have seen shopping as the essentially the interaction between these two. This section serves as a review of this important theme in the study of shopping behaviour.

As mentioned briefly in the previous chapter, the so-called "experiential" perspective is generally accepted as central to contemporary research in the field of shopping behaviour (Parker 1991). This approach derives from the so-called "thick" approach to social science. The latter emphasises that much human behaviour can only be understood in terms of the cultural context in which it occurs (Van Maanen 1988). In the field of shopping behaviour, the term "experiential" is used somewhat loosely and can have a number of (related) meanings - certainly it has been extended beyond the original, culturally bound, explanations of behaviour (Groeppel and Bloch 1990). In the seminal article on the approach, Holdbrook and Hirschman (1982) state that 'consumption has begun to be seen as involving a steady flow of fantasies, feelings, and fun encompassing what we call the experiential view. This experiential perspective is phenomenological in spirit and regards consumption as a primarily subjective state of consciousness with a variety of symbolic meanings, hedonic responses, and aesthetic criteria'. However, whilst this statement was, and still is, extremely important to the development of the theory of shopping behaviour, it describes an approach to the study of shopping behaviour rather than a description of that behaviour. McGrath, in conjunction with others of the ethnographic school (McGrath 1989, McGrath, *et al.* 1993), seeks to interpret behaviour within a socio-cultural perspective. In doing so, they also highlight the physical and psychological elements of the shopping act. Bloch *et al.* (1994) and Groeppel and Bloch (1990) from an empiricist

perspective reach the same general conclusion, that shopping is a complex interplay between the individual and the social, psychological contained within the shopping environments. Both they and other empiricists also emphasise the interaction of the individual with their physical environment. Thus the "experiential" approach is both difficult to define and imprecise in its usage. However, of critical importance to the study of the field is the importance it places on the extra-economic element of shopping and the sophisticated interaction of the individual with their physical, social and psychological environment.

THE INDIVIDUAL

Differences in personality and life styles reflect and contribute to the way in which we interact with our environment. It has been widely assumed that inter-personal differences, for example demographics or psychographics, will correlate with shopping behaviour. Demographics 'are highly related to product purchase and usage. For example, teenagers and young adults patronise jeans stores and record stores more than any other population group. Similarly, young couples are quite likely to buy furniture and home appliances' (Ghosh 1994, p157). This quotation draws an obvious relationship between demographics and where different demographic groups shop or expect to find certain goods. However it has not been possible to relate demographics on an extensive or systematic basis to how people behave once inside the store - the nature of their inter-relationship with their environment (Prasad 1975).

It has also been suggested that psychographic differences or different "shopper profiles" may be related to differences in shopping behaviour – (for a summary see Westwood and Black 1985 or Jarratt 1996). Whilst confirming the existence of different typologies/groups, there have been difficulties in relating the latter to how these groups exhibit different shopping behaviour. Westwood and Black comment that their research, 'whilst modestly successful in confirming the existence of theoretically rooted dimensions of shopping motivation, the study also clearly points to the difficulty of measuring shopping motivation'. Groeppel and Bloch (1990) did succeed in relating certain, quite

limited, aspects of shopping behaviour to different personality types. They identified three groups or clusters of clients (of a clothing store). Two of these were more open to stimuli from the environment, i.e. enjoyed and used in-store "stimuli". Babin *et al.* (1984) discriminated between hedonistic and utilitarian values in the shopping experience. They related these to a number of personality factors e.g. experiential shopping motivations, compulsive spending tendencies. However, they only briefly touch on the relationship between these factors and actual behaviour [1]. Empirical research whilst limited in scope, does reinforce the assumption that different personality types would have different shopping behaviour. Thus, it would seem reasonable to assume that interpersonal differences, in terms of demographics or personality type, contribute to the way in which we shop - inter-relate with the shopping environment. Nevertheless, as yet the relationship is not completely understood.

A further factor that is assumed to effect shopping behaviour is the shopping mode, that is, an individual can adopt different styles or methods of shopping at different times. Oppenheim (1998) considers that this is becoming more pronounced, referring to the 'multi-faceted "new" consumer'. Carr (1990) discusses different shopping modes. She identifies "Quartermastering" - shopping for everyday essentials; "Technical" - shopping for technical products, when you know what you are buying; "Expressive" - selecting items that say something about you; and "Recreational" shopping - shopping as a leisure activity. Unfortunately, this review suffers from at least two problems, 1) the differences in activity she believes associated with the various groups are specified in the very broadest terms, and 2) the categories appear to have no empirical basis. Other commentators focus on the distinction between "Leisure" and routine/functional shopping, but again, tend not to detail differences or base their conclusions on empirical research (Johnson 1990). Regrettably, detailed or empirical research in this area is sparse. Kahn and Schmittlein's (1989) article shows how consumers can be segmented in terms of whether

[1] The primary relationship with behaviour was with "impulse" purchasing. However, the correlation was modest. The authors believed that their measure of impulse purchasing was not adequate.

they mainly shop in regular shopping trips or whether they indulge in a main plus a number of smaller trips. They found that there were significant demographic differences between the two groups, suggesting a meaningful segmentation. However, their only measure of shopping behaviour - the amount spent per trip - did not vary between the two segments. In their subsequent 1992 article, they did relate usage of coupons and on-shelf price promotional activities to main versus top-up shopping trips, suggesting a degree of variation of behaviour. Iyer (1987) was able to relate the level of unplanned purchasing to the time constraints on the shopper. The degree of time pressure is presumably related to the mode adopted on that trip. Whilst these studies are of value, they cast only limited light on how customers react in different modes of shopping. Thus, it seems that a relationship between shopping mode and differential behaviour appears to exist, but once again, the nature of this relationship seems unclear.

Gardener (1985) and Donovan and Rossiter (1982) suggest that "mood" is both affected by the shopping environment and can affect shopping behaviour. Again, the conclusions are very general and far from conclusive. Swinyard (1993) developed some quite complex relationships between mood, involvement and shopping intentions. However, the research was conducted under "laboratory conditions" and the variables measured were simulated to a high degree, thus the 'external validity' could be questioned. Babin *et al*, (1994) as well as evaluating the personality differences discussed earlier, also found a relationship between pleasure and arousal experienced during a shopping trip and hedonic and utilitarian values derived from that trip. However, they draw no conclusion as to the effect of these on behaviour, except to say that arousal could increase information processing capacity and thereby the chances of a "successful" shopping trip. As a consequence, it is sufficient to say that the results suggest a relationship between shopping behaviour and mood, but it is difficult to specify from the existing research exactly what that relationship would be.

Thus, it seems reasonable to assume that the interaction of the shopper with the shopping environment is conditioned by individual differences. These differences are both "long-term" - demographic and psychographic and "short-term" - the shopping mode and the

mood of the shopper. However, at the current state of knowledge the relationship is far from certain. Following the interactionalist approach, it may well be that intrinsic factors should not be treated in isolation of the environment in which they operate. As Hackett *et al.* (1993) state, prior to taking an interactionalist stance, 'both attitudes and personality variables, when taken alone, have been found to be relatively poor predictors of consumer behaviour'.

SITUATIONAL VARIABLES

Foxall (1990) comments that the key stimuli accounting for human behaviour 'are to be found ultimately in the environment rather than the individual'. In line with this, one approach to the study of shopping behaviour is based on the concept that behaviour can be best explained in terms of situational variables. The relationship unfortunately appears to be complex and as yet there is no unified body of theory to describe it.

Certain situational factors, whilst valid determinants of behaviour, are outside the scope of this enquiry. Belk's (1974, 1975) work considers situational variables in terms of the purpose to be served by the purchase, the situation or anticipated situation in which the purchase will play a part. For example, which products would the respondent buy for a party, snacking, or when feeling sleepy, after a busy week etc. The research shows a strong relationship between the "situational" factors as defined in this manner and purchasing intent. Whilst his research supports the general concept that situational factors play a role in understanding purchasing behaviour, the focus of this thesis is on the in-store behaviour.

In Chapter 1, it was suggested that historically certain areas had particularly attracted the attention of researchers. The first and most comprehensive is that of unplanned or impulse purchasing. As the research in this area is by far greater than any other, it will be discussed in its own right in the next chapter. Another area of attention has been the relationship between classical point of purchase techniques and sales levels. For example, Curhan (1972) and Cox (1970) found weak relationships between shelf space and sales levels. Similarly, Chevalier (1975) found a relationship between off-shelf displays e.g. end-of-

aisle displays, and sales - though the relationship varied by product field. Gagnon and Osterhause (1985), Chakravanthi *et al.* (1996), Woodside and Waddle (1975) and Wilkinson *et al.* (1982) showed a relationship between in-store display techniques and sales off-take. Of particular interest is the findings of Wilkinson *et al* who suggest a key role for in-store variables in purchasing. They tested the relationship between sales and price reductions, newspaper advertising and in-store displays and concluded that 'of all the short-term strategies explored, in-store promotion in the form of special display such as end-of-aisle or within-aisle display proved to be the most powerful'. Similar results were found by Curhan (1974) who studied the effect of pricing, "location quality" advertising and display space on the sales of fruit and vegetables. Of the variables considered only display space had a consistent effect on sales. These studies have focused on the effect of additional fixturing in store. Other studies have shown a direct relationship between sales and other in-store behaviour, and the design or format of existing fixturing (Dreze *et al.* 1994, Bradshaw and Phillips 1993, Phillips and Bradshaw 1993).

Price has an obvious influence on sales. The simple price/volume relationship is outside the scope of this enquiry. However, research has also shown that the format in which price is communicated in-store influences price perceptions (Pearce and Frenette 1994, Nagle 1987). In addition, there is the well known practice of pricing ending in 99 e.g. £2.99, which appears to be correlated with sales response - for a review see Schindler and Kibarian (1996). Dhar and Hack (1996) found that price deals (promotions) communicated via in-store couponing resulted in higher sales than when the deal was simply communicated on shelf. An additional layer of environmental influences is added by the finding that the store environment, in terms of the type of store, influences price perceptions (Thaler 1985). Bawa and Shoemaker (1989) found that the in-store environment - in terms of the number of products in the range, "price point", number of promotions, store features and store coupons - influenced the brand loyalty, promotional sensitivity and the rate of new product trial. Thus, the environmental context in which price is communicated can modify the (classical) economists' price/volume relationship.

Contact with store staff can influence behaviour, though Groppel and Bloch (1990) showed that only certain groups sought this contact. Cox (1967) found a relationship between the trust placed in store staff and the perception of products. The social contact with staff of itself has also been shown to be important in motivation for shopping, for at least some customers (Forman and Sriram 1991, Zeithaml and Gilly 1987).

"Atmospherics" has been featured fairly widely in the discussion of in-store behaviour. The model currently in vogue is the "Mehrabian Russell Model" of behaviour, taken from environmental psychology (Donovan and Rossiter 1982). This relates environmental influences to emotional states - defined in terms of the "arousal and pleasure" dimensions - and the latter to behaviour. Whilst intuitively there is appeal in this relationship between environment, "emotive state" and behaviour, the model has caused problems in practice, particularly in terms of operationalising the model. The key issue is the definition of the factors used. At the micro level, these can be seen in terms of specific elements e.g. music, lights, smell etc. These have been shown to have a fairly straightforward, if limited effect on behaviour (Thomas-Emberson 1997, Spangenburg *et al.* 1996, Biblake 1992, Chain Store Age 1996). However, it does not seem necessary to invoke any special model to explain their effect. Their influence can be assumed under a straightforward "Stimulus - Object - Response" model. At the macro level, attempts to define the totality of the environmental influence have been more problematic. Kotler (1973) defines the environmental influence in terms of anything that is consciously planned to 'contribute to the buyers' purchasing propensity', a very broad concept that is difficult to operationalise. Tai and Fung (1997), in possibly the most ambitious investigation of the model, define environmental influences in terms of "Information Rate" 'defined as degree of stimulus from novelty and complexity'. In contrast with the Kotler definition, this seems very limited. As a consequence, the model they produce is only partially successful. Spies *et al.* (1997) carried out a test involving purchasing in two outlets of the same chain, one designated as having "good atmospherics", the other assumed to be less good. Whilst they found a positive relationship between mood and "atmospherics", as defined by these two stores, the effect on purchasing was small. Other attempts to operationalise the model, perhaps because of its complexity, have focused only on certain elements of it. Donovan

and Rossiter (1982) investigated the relationship between retail settings (broadly defined) and emotive states but were only partly successful in identifying the influence on behaviour. As concluded by Kenhove and Desrumaux (1997), there appears to be major problems in operationalising the Mehrabian-Russell model and presumably the "atmospherics" model in general, probably on the grounds identified by Tai and Fung that 'the model is not at all as simple as that predicted', a conclusion that Hackett *et al.* (1993) also reach.

The preceding review of the influence of situational factors on shopping should be sufficient to illustrate that 1) there is strong evidence for a relationship, and 2) that the situational factors that can influence shopping are many and varied. However, the main thrust of the research has been to identify the influence of a single factor or group of factors on shopping behaviour ("atmospherics theory" being the obvious exception). However, given the complexity of the behaviour it is not surprising that relationships identified have been somewhat weak and partial in their explanation of that behaviour. Given that the predominant conceptual perspective is of an interaction between the individual and their environment, any model or theory that excludes the individual must be somewhat bereft of validity.

SUMMARY

This review of intrinsic and situational factors, reveals a wide range of factors that have been considered to have a potential effect on shopping behaviour or at least could be reasonably expected to influence it. The great majority of writers have treated the factor(s) they identify in isolation, assuming some form of direct correlation between the factor and behaviour. The relationships they have uncovered have tended to be weak. From a theoretical perspective this would be predictable. Firstly shopping is seen as a "multifaceted" phenomena. The isolation of one element or facet is by definition only able to provide a strictly limited explanation. Secondly, the issue is compounded by the accepted "interactionalist" approach, incorporated in the seminal articles of Tauber and Holdbrook and Hirschman. These authors maintain that shopping behaviour is the result of

the interaction of the individual and their environment. Behaviour is thereby a derivation of the interaction of two key facets - the intrinsic and the situational. In a similar vein, in the last chapter it was suggested that shopping behaviour was related to the propensity to act - expressed as "demand" in classical marketing - and its actualisation within the situational environment - the store environment. Thus, any attempt to consider either situational or intrinsic factors in isolation of each other would appear to start from a conceptually debatable basis.

This theoretical perspective leads to discussion of the conceptual models in use in this area, a theme that will be returned to a number of times, in particular the "Stimulus - Object - Response" model which appears to be assumed in many studies in this area. As will be discussed in the next chapter, this model is almost certainly too simplistic to capture the multifaceted character of the phenomena nor its essential interactive nature. Research in the area of "atmospherics" theory appears to be something of an exception. The use of the "Mehrabian-Russell" model, incorporated into much of the work, does approach the interactionalist stance. The model relates "arousal and pleasure", induced by the store environment, with the number of stimuli processed by the individual. As such, it does encompass intrinsic states, arousal and pleasure, with extrinsic factors, the store environment, in order to explain behaviour. One factor in the lack of success in operationalising the model may be related to selective perception. Whilst it may well be true that the number of stimuli processed is related to "arousal/pleasure", the model does not specify which stimuli are selected to be processed. Those selected may not be related to the behavioural outcome being measured e.g. sales. This element of selective perception will be discussed at length later in the thesis.

Finally, in this initial review of factors associated with shopping behaviour, is the question of what behaviour is being studied. A simplistic view is that the key element is a purchase. The next chapter will show that this view, is itself simplistic, that the outcome of shopping behaviour can be quite complex. In particular, purchasing can vary on a spectrum according to the degree of unplanned or impulse nature it incorporates.

PAGE NUMBERING AS ORIGINAL

CHAPTER 4 - UNPLANNED PURCHASING

The terms "impulse" and "unplanned" purchasing are frequently used as interchangeable expressions - see for example Prasad (1975), Kollat and Willet (1969). Whilst there has been discussions to exact definitions of the terms, there appears to be general agreement amongst recent authors that terms refer to purchasing in which the purchase decision is at least partially deferred to the point of purchase. For example, a frequently quoted definition is that of Engel and Blackwell (1982, p552), 'a buying action undertaken without a problem previously having being consciously recognised or a buying intention formed prior to entering the store'. Beleaguer *et al.* (1978) provide a similar but even simpler criteria 'impulse purchasing can best be defined in terms of whether the purchaser made the decision to purchase prior or after entering the store'.

It is possible to draw a distinction between the concepts of impulse and unplanned purchasing. For example, Stern (1962) suggested four categories of "impulse" buying, one of which he defines as "Pure Impulse Buying". This he states 'is truly impulse buying, the novelty or escape purchase, which breaks a normal buying pattern'. Rook (1987) actually draws a formal distinction between the two. He defines unplanned purchasing as any purchase where the decision is postponed until the point of purchase. Within this category, he identifies "impulse" purchasing as 'a narrower and more specific range of phenomena than unplanned purchasing'. More importantly, it identifies a psychologically distinct type of behaviour that differs from contemplative modes of consumer choice. Impulse buying occurs when a consumer experiences a 'sudden, often powerful and persistent urge to buy something immediately.' This is in marked contrast with (much) unplanned purchasing, which has been found to often involve time consuming, detailed, consideration of products (Wells and Lo Sciuto 1966). In this thesis this distinction will be followed. The term "unplanned" purchasing will be used for any purchase where the decision as to the exact product to purchase is made at the point of purchase. The term "impulse" purchase will be for a special case of unplanned purchasing, where the behaviour is categorised by a spontaneous, sudden urge to buy.

Discussion of the definition of unplanned purchasing has focused primarily on operationalising the definition. This has been severely constrained by the necessities of research in a somewhat difficult area. Cobb and Hoyer (1986) for example, suggest that researchers have traditionally used two primary operative definitions of an unplanned purchase:

> Purchasing that respondents did not include as an intended purchase in a pre-purchase interview.
>
> OR
>
> Some form of response to a question of the type "when did you make the decision to buy - was it before or after entering the store".

Commentators have admitted that these operative definitions are limited (Pollay 1986, Rook 1987), but as yet an alternative operative definition has not been proposed.

Whatever the operative definition, there is universal agreement that unplanned purchasing is a major factor in shopping behaviour. Cobb and Hoyer (1986) collated the levels of unplanned purchasing in previous studies. Their summary shows levels of unplanned purchasing varying from 0% - for prescription medicines - to 70% for bakery goods. Their study covers a number of disparate trade sectors. The largest and potentially the most homogenous is 'grocery'. To study the effect of changes over time this group has been abstracted and is shown on Table 4.1.

Table 4.1 – Summary levels of unplanned purchasing

Study	Year	Field	Rate of Unplanned Purchasing %)
Du Pont	1945	Grocery	38.2
Du Pont	1949	Grocery	38.4
Clover	1950	Grocery	26
West	1951	Grocery	43.5
Du Pont	1954	Grocery	48
Du Pont	1959	Grocery	50.9
Du Pont	1965	Grocery	50
Kollat and Willett	1967	Grocery	50.5

Table 4.1 suggests that for grocery products 1) the level of unplanned purchasing in the 1960's was 50% and 2) the level was increasing over time. There is further evidence for this increase in unplanned purchasing over time. Recently the trade press has referred to a contemporary trend towards increasingly deferring the purchase decision until the point of purchase (Litherland 1995, McMurdo 1993, In Store Marketing 1997 a). In addition, a recent survey by the Point of Purchase Advertising Institute - Europe (1998) estimated that in 1997, in the case of 75.5% of typical grocery purchases the decision was wholly or partially made in store.

The survey covered the UK, Belgium, France and the Netherlands. The breakdown of purchasing is shown in Table 4.2:

Table 4.2 – Products Purchased

BASE: Total products purchased	**18,600**
	%
"Specifically planned"	24.5
"Generally planned"	8.0
Substitute product or brand	3.7
Unplanned	63.8
TOTAL IN-STORE DECISION (Partial or complete)	75.5

Again, there is a degree of inexactitude as to the definition of the categories involved in this study but it does suggest that "unplanned" purchasing is both large and has been increasing. A similar result has been claimed by the Point of Purchase Advertising Association in the US. The results of this study have not been made generally available but "researchers discovered that supermarkets' in-store decision rate climbed to 70 per cent from 60 per cent in 1986" (In Store Marketing 1997 b).

Whilst there may be academic debates about the nature of unplanned purchasing and the methods of measuring it, there can be no doubt that it is a major element in the purchasing process (Pollay 1968) and almost certainly it has been increasing over time. As discussed in the last chapter briefly and developed at length in this, the existence of unplanned purchasing as a major factor in the buying process raises key issues as to the nature of that process. It demonstrated that there is no one outcome of the purchasing process, no uniform or singular category of behaviour easily identifiable as a "purchase". Instead, it appears that there is a spectrum according to the degree of in-store decision making. This

represents a major challenge for the study of shopping behaviour, in terms of what are the concomitants of this key activity.

INTRINSIC AND EXTRINSIC FACTORS

As mentioned earlier, unplanned purchasing has been one of the areas of focus in shopping behaviour. The question as to why this important area of activity occurs has only been addressed indirectly. Rook (1987) and McGrath (1989) account for it in terms of confrontation with the object, creating the desire for purchase. McGrath *et al.* (1993) found that the cultural setting encouraged this activity. Implicit in "Atmospherics Theory" is a similar concept, that the store environment prompts purchase, presumably unplanned. Unfortunately, as discussed in Chapter 3, the latter approach has encountered certain difficulties, which as yet do not allow the nature of that relationship to be determined.

Rather than addressing the issue as to the causes of the phenomena, research has attempted to discover factors correlated or associated with it. The author has identified eight studies of this type. Rather than review them individually, which would be somewhat repetitious, they have been summarised in Table 4.3. A review of the literature suggests that a key factor, for the researchers involved, has been the division of factors into intrinsic or situational. Therefore, the findings have been assigned according to these criteria.

Table 4.3 - Intrinsic Factors

NAME	DATE	LEVEL OF UNPLANNED PURCHASING FOUND TO BE RELATED TO:	
		INTRINSIC FACTORS	SITUATIONAL FACTORS
Clover	1950		Varied by store type.
Wells and Lo	1966	Urban versus suburban	Product field, price.

Sciuto		shoppers.	
Kollat and Willet	1967	A wide range of economic, demographic and personality variables were not found to be related, except for year's married.	Transaction size, major versus minor trip, lower frequency of buying the field, variable relationship with the use of shopping lists.
Prasad	1975	No relationship with demographics.	Varied by store type – discount stores higher than departmental. Increased with higher total transactions. Varied by product field, even within store groups. No relationship with shopping mode e.g. major/fill-up, use of shopping list.

McGoldrick	1982	No relationship with gender, little relationship with age, some difference in terms of social class.	Varied by product field. Staff important in some products. Ditto price. Probable relationship with in-store displays.
Cobb and Hoyer	1986	Limited relationship with demographics and personality differences - except gender - males more prone. Increases where there is low emotional attachment to brands	Product field. Level of in-store information. Price. Task-related factors e.g time, frequency of purchase, packaging examination etc.
Bellanger *et al.*	1987	Age - highest in under 35's and over 65's. Varied by product field in terms of race.	Varied by product field.
Rook	1987		"Confrontation" with the product or promotional stimulus.

Source: compiled by the author

INTRINSIC FACTORS AND UNPLANNED PURCHASING

The lack of relationship, in this summary of the research, between unplanned purchasing and intrinsic factors is striking. The research into intrinsic factors and shopping behaviour in general was reviewed in the previous chapter. Whilst inconclusive, it did suggest that a relationship between intra-personal factors and shopping behaviour was certainly possible. Similarly, the fact that the researchers, whose work is summarised in Table 4.3, have continued to seek such a relationship suggests that they assumed, a priori, that the relationship was at least feasible, if not probable. The lack of comprehensive or definite relationships may of course be a factor of the research methods used, mainly surveys. However Rook, (1987) using a qualitative research, and Wells and Lo Sciuto, (1966) using observational research, draw similar conclusions. In addition, the modest correlation observed between intrinsic factors and unplanned purchasing may not be as a result of a direct or causal relationship. Kollat and Willet (1969) state that 'several variables are related to customer differences in unplanned purchasing only because they are related to another variable', i.e. a "third factor" relationships exist in this field. For example, a consistent relationship has been found between transaction size and unplanned purchasing. This relationship may be behind the limited association found in some studies between age, class and years married with unplanned purchasing. The groups identified may well have higher disposable incomes or more family members and thereby potentially higher transaction sizes. There may be similar relationships existing between store type in which the shopping occurred, which is known to effect both unplanned purchasing and the segment choosing to shop at these stores.

In summary therefore, on the basis of research to date, only very limited evidence has been uncovered to suggest a relationship between unplanned purchasing and intrinsic factors and the limited relationships suggested may be explicable in terms of other factors, i.e. possible "third factor" relationships. At best all that can be deduced concerning the relationship between intrinsic factors and unplanned purchasing is that the relationship is "unproven".

SITUATIONAL FACTORS AND UNPLANNED PURCHASING

In contrast, the evidence for the relationship with situational factors is manifest. Store type, product field, price, in-store information, transaction size, etc. are consistently found to be related to unplanned purchasing. In the preceding chapter, research into purchasing in general - irrespective of its planned/unplanned nature - was reviewed. It was suggested that there was strong evidence for the relationship with situational factors but that the relationships uncovered were "weak". It may be that there are different relationships at work, according to the nature of the purchasing act involved. It would appear, from this chapter, that the relationship between situational factors and unplanned purchasing is more definite. The role of in-store situational factors in planned purchasing is by definition minimal, if non-existent. In other words, relating situational factors with purchasing in general is attempting to correlate it with two heterogencous factors - planned and unplanned purchasing. With one - unplanned purchasing - it probably has a definite relationship. With the other - the relationship is weaker/non existent. The degree of relationship is therefore related to the amount of planned/unplanned purchasing in the mix of behaviour being studied. This insight is in line with the discussion at the end of the last chapter that there is no one category of behaviour in shopping, e.g. purchasing, which can act as the resultant of a simple "Stimulus - Object – Response" model.

Of equal significance is the fact that despite the reasonable level of research - at least in the shopping behaviour arena - the authors cited earlier do not suggest the mechanisms behind the relationship between situational factors and unplanned purchasing. Again one is left with a series of correlations without any general theory to explain or unite these insights.

Scripted Behaviour

In contrast, Iyer (1989) advances a theory that directly relates situational and intrinsic factors to unplanned purchasing, via the concept of "Scripts". As such, it is worthy of more detailed consideration. His definition of scripts is 'a coherent mental representation that aids the collation of incoming information and facilitates the expectation of events to come'. He

assumes that infrequently encountered situations, we have learned autonomic responses that can be triggered by the set of stimuli. He postulates that part of the "shopping script", is the encoded purchasing sequence. He further suggests that 1) if the encoded and the actual purchasing sequence are similar then the customer will rely on memory - the script - to determine which products will be purchased, 2) if they differ, then recall of the script will be inhibited and store influences will come more to the fore, the customer will then be more liable to make unplanned purchasing. Iyer also hypothesised that respondents under time pressure will place greater reliance on the script and make fewer unplanned purchases. (Lakshmi-Ratan and Iyer 1988, Iyer 1989, Iyer and Ahlawat 1987). In his 1989 article, Iyer reports a test of his theory involving a sample of shoppers. A section of respondents [1] were taken to stores which they were unfamiliar with and a further section were requested to complete their shopping in their usual store but in half the time they estimated they required. As predicted, the level of unplanned purchasing was related to both store knowledge - higher when respondents were in unfamiliar stores - and time pressure - higher when respondents were not required to purchase in half their normal time.

Iyer's theoretical basis can be queried. Abelson (1981) in his seminal article on scripted behaviour points out that in at least one concept of a script - the "weak script" - the order in which events occurs is not necessarily requirement of a script. In addition, he dwells at length on the inherent flexibility of scripts, in addressing variations in the environment in which they might be acted out. Thus, the encoding of a sequence, including the sequence in which products are displayed in a store - a key tenet of Iyer's research - is not a necessary an attribute of a script. In addition, deviation between the encoded sequence and the environment does not necessarily imply that the use of a script will be inhibited, there is no reason to suppose that - in theory at least - it could not adapt.

Further problems are encountered by Knox and de Chernatory's (1990) test of another central tenet of Iyer's theory. This is that a script develops in response to a frequently encountered situation. Knox and de Chernatory's therefore hypothesised that frequent buyers of

[1] Iyer does not indicate the sampling method for his sub-samples.

continental cheeses (in the UK) would be less prone to make unplanned purchases than occasional buyers. However, they found the opposite to be true. In addition, contrary to Iyer's thesis, the frequent buyers made greater use of environmental, in-store, factors, e.g. asking advice from assistants, tasting samples etc.

Thomas and Garland (1993) also tested Iyer's theory. However, the research appears to have doubtful relevance. They suggested that a shopping list is a manifestation of a "script". Following Iyer's theory, they hypothesised that the use of a shopping list would reduce unplanned purchasing. Their research did find a correlation between the use of a shopping list and consumers' total trip expenditure. However, they also found a relationship with size of the family and the composition of the shopping party. Regrettably, as a test of Iyer's theory, the research suffers from certain flaws:

- A shopping list is a physical object; scripts are essentially psychological phenomena.
- The actual level of unplanned purchasing was not measured, only inferred from the total transaction size.
- The relationship is possibly explicable in terms of family size being related to both phenomena.
- Kollat and Willet (1969) had previously found a relationship between unplanned purchasing and the use of shopping lists. Their research found that the use of shopping lists only reduced unplanned purchasing for lower levels of transaction size.

Thus, the relevance of Thomas and Garland's research into Iyer's theory is somewhat debatable.

Smith and Houston (1985) when reviewing the theory of scripted behaviour, commented that a key issue is that behaviour which had been accounted for in terms of scripted behaviour,

could inevitably be accounted for by using other equally valid constructs, it was not necessary to invoke the concept of scripts. Perhaps this is the case with much of Iyer's theory.

However, at least one element of his theory is supported by other research. This is that increased exposure to the point of sale increases the incidence of unplanned purchasing. In addition to Iyer's research, there is strong evidence for the relationship between unplanned purchasing and the degree of exposure to the point of sale. This is explicit in the review of situational factors earlier in this chapter and implicit in the research on situational factors reviewed in the previous chapter. This relationship could be expressed as a simple correlation of the form:

$$P \propto E$$

Where:

P = Level of unplanned purchasing

E = Level of exposure to stimuli at the point of sale

In this relationship, it is not necessary to invoke the concept of a script.

It seems possible to explain Iyer's research in terms of this axiom. Shoppers who are unfamiliar with the store layout will of necessity have to view more of the store, in order to navigate themselves around that store. They will thereby have a greater exposure to the point of sale and potentially have a higher incidence of unplanned purchasing. Similarly, shoppers under time pressure will presumably be less inclined to browse, thereby being exposed to less of the store and consequently make fewer unplanned purchases. However, whilst Iyer's theory in its totality may be questioned, certain elements do seem to be of considerable importance. The first is the relationship between exposure to the point of sale and the level of unplanned purchasing. The second is the concept that scripts (often called schemata in psychology) are a key element in shopping behaviour, though probably not in the form proposed by Iyer.

DISCUSSION

This review of research into unplanned purchasing shows that despite a reasonable level of research activity in the area, few generalisations can be made. The research shows that unplanned purchasing is indubitable a major factor in modern shopping. However, it is has not been possible to relate the phenomena on any consistent basis to intrinsic factors, with any certainty as to causality. In contrast, the relationship with a wide variety of situational factors has been found across a number of studies. There would appear to be at least one underlying relationship, this is that increased exposure to the point of sale increases the probability of unplanned purchasing occurring.

The lack of general theories may be a function of an oversimplified model of unplanned purchasing implicit in the research. What has been called here the "intrinsic" approach appears to implicitly assume a direct relationship between attitudes and behaviour. It assumes that mood, social norms, psychological orientation, etc., in other words the frame of reference of the individual, will be correlated with the propensity towards unplanned purchasing. The theoretical basis for the lack of such a correlation was discussed at length in Chapter 2. Thus, perhaps with the advantage of hindsight it is not surprising that any relationship between intrinsic factors and purchasing has been found to be tenuous and consequently no generalisations are possible.

Turning to what has been called the "extrinsic" approach, a number of correlations have been suggested between situational factors and unplanned purchasing. However, excluding Iyer's theory, the work has been more descriptive than explanatory. No significant attempt has been made at theories that might provide if not universal, then at least more generalised explanations of the phenomena. This inhibition may be linked to the basic model underlying most work, which appears to be that of "Stimulus - Object - Response" (SOR). In theory at least, this model may be valid (for a discussion of the model in this field see Belk 1975, 1974). However, in practise it may be over-simplified. It has been shown that customers can vary considerably in terms of psychographics, mood, mode etc. In addition, there is a plethora of environmental factors that have also been shown to be related to unplanned purchasing.

Thus, there is a multiplicity of both "stimuli" and "objects". It is not surprising therefore, that no unified body of theory can link such disparate parameters, if a simple Stimulus - Object - Response (SOR) model is assumed.

However, more serious is the assumption that the "response" - shopping or purchasing - is a unified concept. Whilst, typologies of shopping are few (see Chapter 3), they suggest that there is no such single act that can be called "shopping". Even if a SOR model is assumed, this would of course be expected. If there are many "Stimuli" and many "Objects", then one would predict many "Responses".

The view that shopping is a series of acts is supported by the typologies of purchasing/unplanned purchasing advanced by, for example, Stern (1962) or McGoldrick (1990,1982). Stern categorises impulse/unplanned purchasing into Pure Impulse, Reminder Impulse, Suggestion Impulse and Planned Impulse. McGoldrick, in this case with an empirical basis, similarly categorises purchasing into:

- **Specifically Planned:** the need was anticipated and the person bought the exact item planned.

- **Generally Planned Purchase:** the need was anticipated but the person decided in the store upon the item to satisfy the need.

- **Reminder Purchase:** the person was reminded of the need by some influence in the store.

- **Entirely Unplanned Purchase:** the need had been anticipated on entering the store not prior to that.

These typologies of purchasing suggests very different categories of acts. For example, McGoldrick's "Specifically Planned" purchase is a very different act from his "Entirely Unplanned Purchase", particularly if the latter is of the type described by Rook as 'when a

consumer experiences a sudden, often powerful and persistent urge to buy something immediately.' This lack of homogeneity of the purchasing act, returns us once again to the complex - the multi faceted - nature of shopping behaviour.

The Stimulus - Object - Response model that underlies much of the work in this field appears to be just too simplistic to adequately describe behaviour in this field. It would appear that in shopping there are a wide variety of stimuli, objects and responses, that they are far from constituting the homogenous groups that are assumed in the SOR model. If there are any number of stimuli, effecting a variety of objects, it is not surprising that there are variable and unpredictable responses. This theoretical perspective is born out by the research. It has not been possible, except in a limited or partial manner, to relate specific factors to shopping behaviour. This analysis of the SOR model may help to explain why that might be so. Moreover, the SOR model has of course also been superseded in the field of shopping behaviour by the "interactive model", as discussed earlier. In addition, in field of psychology, from whence the SOR model was derived, an interactive model is now also preferred. Behaviour is seen now more as the result of a continuous interaction between personal and environmental variables - persons and situations influence each other reciprocally. To predict behaviour, it is necessary to know how the characteristics of the individual interact with the characteristics of the situation (Atkinson *et al.* 1990).

However, a key factor may well have been neglected, this is selective perception. A major factor in considering which environmental factors effect behaviour must be which factors out the myriad impinging upon us in a store, we select to process. Obviously those factors which we do not choose to process cannot by definition effect our behaviour. As well as adopting what is potentially a too simplistic model of behaviour, the SOR model, researchers have tended to equate all stimuli as having equal saliency, an assumption that will be shown to be far from correct. Consequently this will be developed further in the next Chapter.

CHAPTER 5 - SELECTIVE PERCEPTION AND ATTENTION

INTRODUCTION

In the previous chapters the models used in research into shopping behaviour have been discussed. It was suggested that most empirical research has been based on underlying models that assumed a somewhat direct or one-to-one relationship, between either 1) the subject and behaviour or 2) a stimulus, the subject and behaviour. However, the seminal writers on the topic have postulated that relationships in this field are more complex. Tauber (1972) and Holdbrook and Hirschman (1982) base their approach on an 'interaction' between the individual and the environment. A similar approach is taken by Foxall (1990) who proposes a 'multi-faceted' relationship between the two. To construct a model that comprehensively describes that "interaction" or even approaches a description of a 'multi-faceted' relationship is too ambitious to be attempted within the scope of this thesis. Therefore, this chapter will focus on what is proposed as a key "intermediary variable"; between the individual and their environment, that is, their perception of that environment. As will be shown, this fulfils the requirements of the Tauber/Holdbrook and Hirschman schema, as perception is essentially interactive, and as will be shown in subsequent chapters, appears to be a key element in the shopping process.

It is a truism to say that we cannot buy what we cannot see or at least perceive, in at least normal shopping behaviour. As suggested earlier, shopping is currently seen as an interaction between the shopper and their environment. For this interaction to occur the shopper must perceive the (shopping) environment.[1] Cohen (1981) maintains that perception is an essentially selective process. It will be argued that selective perception is a key intermediary variable in the shopping process. In addition, it will be shown that selective perception is a complex entity that manifests itself in a variety of ways. Selective perception has been

[1] However indirectly, whether from a catalogue, advertisement, word of mouth, electronic shopping etc.

covered or perhaps more accurately alluded to in the past in the marketing literature. Howard and Sheth (1967), for example, did include it as one of the many factors included in their model, but only in the limited sense of inattention to say a TV commercial because of distraction. In contrast, in the field of psychology selective perception, or rather selective attention, is regarded as a major factor in the understanding of human behaviour.

PROCESSING LIMITATIONS

A tenet of classical buyer behaviour theory is the concept of the limited processing capacity of the human brain. Based on the "bottle neck" theory of the attention in psychology, this concept assumes that there is a limit to the quantity of data that could command attention at any time. Only certain 'messages' could be attended to, thus any others of necessity were rejected. For example, Engel and Blackwell (1982, p30) wrote:

> "Before anything can happen, the message must be gotten to the consumer where he or she happens to be. This is depicted here as exposure, the first step in information processing. This activates one or more senses, and the preliminary information processing takes place. This may or may not attract attention, which is defined as allocation of information-processing capacity to the incoming stimulus...short term memory by the way, is the component of total memory in which this preliminary process takes place. It is distinctly limited in capacity, with the result that information processing is highly selective".

This classical interpretation is based primarily on the work of Miller (1956) who proposed that the capacity of the attention span was approximately seven "chunks" of information (a chunk is a single piece of information related to a subject. Thus, a comprehensible phrase of eight words is a single chunk, whereas eight unrelated words constitute eight chunks). This early theory is still reflected in much thinking about buyer behaviour. A limitation of Miller's work in the shopping context was that it was carried out under laboratory conditions. In the real world situation it is assumed that available attention span is on most occasions more

limited. However, no empirical work has been carried out to quantify the capacity of the attention span under 'ecological' conditions. In consumer behaviour literature due deference is paid to this reduction in the number of chunks "available" for purchasing. However, one must assume that authors citing it have guessed at the actual number. Thus, Howard (1994, p91) wrote:

> "Knowing that attributes are chunks in memory and that working memory can hold no more than five chunks, it is not surprising that buyers typically use no more than three or four attributes to evaluate a brand".

Similarly, according to Schiffman and Kanuk (1991, p204):

> "The short-term store is the stage of real memory in which information is processed and held for just a brief period...The amount of information that can be held in short-term storage is limited to about four or five items".

Whilst it is correct to assume limitations to the attention span or processing capacity at any one time, psychologists now reject the rigidity of this model. This simple mechanistic view has 'lost popularity because (it) underestimated the flexibility of human attention. No metaphor based on a simple machine or simple structure can successfully account for the sophistication of human perceptual process' (Matlin 1994, p49).

Whilst theories concerning the nature of attention is the subject of debate, there is universal agreement that attention is constrained and controlled in a decidedly selective manner - even though the scope and type of that limitation varies. 'Although research on attention is diverse, different frameworks agree on the following:

- The human information-processing system has a limited capacity to handle all the information arriving at the sensory organs

- As a result of the processing limits, a person selects aspects of the task environment and devotes more resources to the attended task' (Haberlandt 1994, p97, 98).

The question that this limitation of the attentional span raises, is how with such limitations can we cope with the complexities of modern life in general and in particular shopping in a modern store with a myriad of stimuli? Part of the answer is that we must be highly selective in terms of the stimuli we choose to attend to. However, if the classical buyer behaviourists are right, in that we only have four to five "chunks" available, it would seem that these could easily be absorbed by the task of (say) navigating around the store or talking to a companion; none or virtually none would be available for the process of shopping.

Fortunately, as mentioned above, modern psychological theory suggests that the attention span is more flexible, which allows us to cope with the complexities of modern life, and in particular the complexities of shopping. Routines identified by psychological research, whilst operating within the limited attention span, add additional levels to it that allow us to organise and comprehend our perceptual environment.

Task Dissimilarity

Part of the answer as to how it is possible to walk, talk, shop etc. simultaneously is that these tasks are 'dissimilar'. The modularity theory of attention maintains that dissimilar tasks use different modules of the mind, each having its own attention span. Following Hampson (1989), tasks have reduced interference with each other, to the extent that they do not share the same input modularity (e.g. visual or auditory), access the same stage or stages of processing (input, central processing or output) or depend on similar memory codes (verbal or visual). The definitions of 'similarity' and 'dissimilarity' do not appear to have been precisely clarified. Most research has focused on different 'senses' - visual, auditory, muscular etc. However, Peters (1994) identified dual tasks that can be carried out simultaneously with two hands but cannot be carried out with one hand. This is despite the fact that there is no physiological limitation. Thus, modules can exist within what is conventionally regarded as one sense.

This has led to the rejection of a single, delimited, bottleneck (Allport 1993, McCleod 1977) in favour of a series of constraints dependant on the module used or activated. However, it has been shown that the modules are not completely independent of each other. Interference can still occur in dual task operations, even if they use different modules (Pashler 1990, Carrier and Pashler 1995).

Thus, one reason why it is possible to walk, talk, shop etc. is that these functions involve different 'modules'. However, importantly for understanding shopping behaviour, these functions are not completely independent of each other in terms of attention span. In particularly demanding (e.g. crowded) shopping situations, attention will be focused on coping with these - say avoiding other customers - rather than on the shopping process. However, multiple demands on the attention are particularly difficult, if not impossible, if they utilise the same 'module'. Retailers tend to place particular demands on the visual sense. In other words, they require the shopper to carry out multiple tasks within potentially one module, e.g. visually identifying a range **and** visually selecting within that range **and** ignoring extraneous visual material.

The Multi-Faceted Attention

Unlike the classical buyer behaviour theorists, modern psychology does not see the restrictions of the attention span as a single "bottleneck" but as a series of functions, each of which has constraints, which by their interrelation offer a much higher degree of flexibility. Attention is classically located in the memory. It is generally accepted that the latter can be divided into short- and long-term. The short-term memory is associated with attention and has distinctly limited capacity. The work of Atkinson and Shriffrin (1971) also added the "Sensory Register", which holds data from the senses for a second or two.

Baddely and Hitch (1976) initially sub-divided the short-term memory into the Central Executive (the attentional control system) and two slave systems - the Articulary Loop (dealing with verbal or phonological material) and the Visuo-Spacial Sketchpad (dealing with visual or spatial data). To this Baddely (1993) subsequently identified other constituents. As Cohen *et al.* (1986) comment 'Baddely's working memory model represents a valuable

contribution in various ways. There is now almost universal agreement that it is more realistic to assume that working memory consists of several relatively independent processing mechanisms rather than a single unitary short-term store'. This concept of a multi-faceted short-term working memory, plus the concept of additional stores in the Sensory Registers allows again for parallel processing and thereby the amplification of attention span to meet the extringencies of modern living.

The classical structure as described by Baddeley, and Atkinson and Shiffrin is now regarded as over-structured and rigid (Kinchla 1992). In particular, the locus of selection of data at each stage is regarded as over-simplified. However, the basic concept of attention as multi-functional and flexible, which allows for parallel processing, is an important step in understanding how we cope with the complexities of modern life and shopping in particular. These theoretical perspectives increase the power of the attention span beyond the rigid say five 'chunks'. However, a modern store may contain say 30,000 lines, 20,000 square feet of gondolas, checkouts, signs, delicatessens, promotions etc., plus at peak periods 200 to 300 other shoppers to cope with. In other words, the shopper is presented with thousands of potential stimuli to contend with. Whilst these theoretical insights suggest that the capacity of the attention span can be enhanced beyond the classical chunks limit, they also point out that this expansion is distinctly limited. Certainly it is not sufficient to account for coping with the thousands of stimuli presented by a modern store.

Autonomic Processing

The facility that most 'copes' with the complexities of routine processing within the limits of the attention span appears to be learned or autonomic processing. The seminal work of Schneider and Shiffin (1977) illustrated the key role of learning and automatic processes, in parallel processing. They divided information processing into automatic and controlled. 'Automatic processing is learned in long-term store, is triggered by appropriate inputs, and then operates independently of the subject's control...Autonomic sequences do not require attention...and they do not use up short-term capacity.' Unless they are neurological in origin, they result from previous frequent use of 'controlled processes' - frequently called 'schemata' or scripts (see the previous discussion of Iyer's thesis).

Whilst seminal, the work of Schneider and Shiffin has been subject to widespread debate and revision. In particular, Cheng (1985) has questioned whether autonomic processing is 'capacity free'. She also points out that the definitions of automatic and controlled processing are somewhat imprecise and arbitrary. Thus, Hampson (1989) in a review of the field writes, 'it seems appropriate to subdivide the original large class of automatic processes into a small class which are fully automatic and a large class which are only weakly or partially automatic'. However, despite the fact that they are not completely capacity free, the existence of subconscious autonomic processing allows us to perform tasks infinitely beyond the capacity of our attention span, if they were to be performed by the conscious.

A further problem with the concept of automatic processing is the issue of inappropriate response. If completely automatic and unconscious, then stimuli could trigger 1) a response with negative or sub-optimal consequences or 2) a number of potentially conflicting responses. This activation of inappropriate responses or "slips" does occur, for example, when entering a room and unconsciously turning on the light even though it is daytime. Alternatively, two or more automatic responses are triggered when only one is appropriate, for example, in a spoonerism (Norman 1981). As errors of this type are limited, some element of control is presupposed.

Norman and Shallice (1986) suggest three levels of processing:

- Fully automatic processing controlled by schema (organised plans).

- Partially automatic processing involving Contention Scheduling without deliberate direction or conscious control - Contention Scheduling being the facility to resolve conflicts among schema.

- Deliberate control by supervisory attentional system.

The Contentional Scheduling allows for the selection of appropriate responses. Importantly for the study of shopping behaviour, this suggests an alternative to a rigid, deterministic, view of human behaviour and volition at least as far as automatic behaviour is concerned.

The question that suggests itself in this context is which of the many competing stimuli do we choose to process with our limited attention span. Stimuli can be seen to be competing for attention. It has been found that certain stimuli have a higher or lower probability of being processed **according to their relevance to us/our motivation to process stimuli of that type**. Selection of stimuli on the basis of relevance to the subject has been well-established (see, for example Deutsch and Deutsch (1963), Stark and Ellis (1981), also the work of Treisman discussed later). As Duncan (1993) writes 'given that any sort of stimulus can in principle be relevant to behaviour, this must require matching of each input element to some flexible advance description of the *sort of information* currently required, which we call the attentional template. The closer the match to the template, the higher is the weight assigned (i.e. higher probability of being processed)' (Italics in the original). Attention is thus directed by the motivations or goals of the individual. However, of relevance to the current study is that as the workload increases, so attention is abandoned from certain stimuli (the apparently less pressing). Attention across the band of stimuli is "locked out" (Moray 1993). Thus, in crowded or confusing store situations, the attention may well be "locked out" from observing displays or parts of displays. This would reflect the work of Kvalseth (1977) who suggest that attention is at least partly directed by costs and pay-offs. In many in-store situations the cost

of observing the display (say if it is confusing and will require effort to disentangle) can outweigh the perceived potential pay-off.

The theory of "Contention Scheduling" advanced by Norman and Shallice (1986), mentioned earlier, provides a link between the related areas of meaning and motivation. They propose that environmental stimuli stimulate "schemas" - learned "chunks" of organised knowledge or "skills". Contention Scheduling involves routine selection between potentially competing schemas. In addition, they propose the existence of a "Supervisory Attentional System" that deals with:

- Situations that involve planning or decision-making
- Situations that involve error-correction
- Situations where responses are not well learned or contain novel sequences
- Situations that are judged dangerous or technically difficult
- Situations that require the overcoming of strong habitual response

(Norman and Shallice 1986).

Subsequent empirical research shows that without this "Supervisory Attentional System", e.g. in-patients with brain damage, behaviour is dysfunctional (Sallice and Burgess 1993). Thus, schemas are triggered according to their saliency or relevance to the task-situation.

DISCUSSION

Driving a car is a very frequently quoted example of the use of autonomic processing to cope with the complexities of living, despite the limited attention span. When learning to drive a car we initially have to consciously practice a series of operations (for example "mirror -

indicate - manoeuvre", or "brake and clutch" when we stop). In a very short time these become schemata or autonomic processes, which are triggered by stimuli in the internal or external environment. It is suggested that in a similar way at least regular shoppers learn to cope with the complexities of shopping in the in-store environment, given the limitations of our attention span, by developing a series of schemas.

Hypothesis 1

> In order to cope with the complexity of the shopping environment, given the limitations of the attention span, people who shop regularly have learned to shop and therefore by using autonomic behaviour, in the form of schemata, overcome the limitations of the attention span.

Their initial shopping experiences involve the use of conscious, 'controlled processes', and as indicated by Schneider and Shiffin with repetition these become autonomic or schemata. Thus much of shopping behaviour is subconscious, autonomic, processing, which if not capacity free, at least very considerably reduces the requirements on the attention span. In line with Norman and Schallice's theory, conscious attention will be invoked when a non-routine situation is encountered, for example, where a decision between competing products is required.

STIMULI FOR EVOKING THE SCHEMATA

As was discussed earlier, schemata, such as those hypothesised as existing in the shopping situation, are evoked by stimuli - either in the environment or the subject. Critically important to understanding shopping behaviour therefore is which stimuli will evoke these schemata. It would appear that processing can either be "top-down" or "bottom-up". The work of Treisman in particular (1988, 1993) shows how the basic features of an object (colours, orientations and shapes) are "glued" together into meaningful perceptions by the attention to form a recognisable object. This is in part a function of memory. In simple tests such as

identifying an oblique versus a vertical line, one can assume that no memory is required. However, in terms of meaningful activity in the field of shopping, more complex stimuli need to be identified and these will almost certainly require memory. The chunks of data so perceived act as "pointers" to the relevant schemata in the long-term memory that allow for identification and meaning to be attached to the image (Baddely 1993). Thus attention in this way would appear to be directed by motivation and meaning (Eysenk and Keane 1995, Lord and Burnkrant 1993 and Williams 1966).

Some understanding of the role of selective perception of stimuli in purchasing is provided by Cox (1967). He proposes that products are evaluated on the basis of limited "cues". The cues selected to process by the subject are not necessarily the "best" - in the sense of technically predicating qualities - but those most readily available to that subject. Cox's theory, whilst advancing the understanding of the role of selective perception, still views it as primarily a passive information filter. The thesis developed here is that customers are interactive in terms of the cues they select to process, that they select them on the basis of meaning or relevance and that regular shoppers would have developed schemata for this process, as would be predicted by the work of Norman and Schallice (1986). This leads to hypothesis 2.

Hypothesis 2

> Recognition of qualities in an object is based on highly selective cues, which are selected as having meaning or relevance to the subject. It is these that condition resultant behaviour.

TESTING THE HYPOTHESES

As discussed in Chapter1, these hypotheses fall within the remit of the classical empiricist tradition, in that they are refutable or 'falsifiable' - as such are subsumed under the Popperian schema of empiricist correctness (Popper 1959). Whilst in theory they are testable, in practice problems are encountered. The hypotheses refer to internal mental

states but direct observation of such entities is generally impossible - as in this case - which rules out the possibility of testing these hypotheses directly. Again, as discussed in Chapter1, this inability to directly test hypotheses is not an uncommon phenomenon in the human sciences but by no means invalidates research in this area. Fortunately, as Judd *et al.* (1991) state, when it is not possible to directly test a hypothesis as the construct(s) involved are not observable, it is valid to test secondary or subsidiary hypotheses which are logically derived from the first. A test of the latter serves as a test of the former. This strategy is selected in this thesis to overcome the difficulties of direct testing of the hypotheses. As a consequence of the above discussion, three areas of shopping behaviour were selected and further hypotheses developed as to how behaviour in these areas would be effected – if the hypotheses developed in this chapter were correct. Unlike the hypotheses developed in this chapter, these new or subsidiary hypotheses do refer to observable behaviour and as such as testable by conventional means. As these subsidiary hypotheses are logically derived from the main hypotheses, their testing constitutes a test of the main hypotheses, outlined earlier in this chapter.

AREAS SELECTED FOR TESTING

The areas selected for testing involve behaviour relating to:

- Packaging
- Decision making

  and
- Displays

The hypotheses developed in each of these areas were:

AREA	HYPOTHESES

Packaging	*Hypothesis 3* - Consumers use a limited set of visual cues derived from the packaging of a brand, that in part determine the market positioning of that brand.
	Hypothesis 4 - Changes in the cue structure incorporated in a packaging design will alter the market positioning of that brand.
Decision Making	*Hypothesis 5* - There are at least three approaches to decision making at the point of sale, in terms of the processing or marshalling of stimuli. These are 'Trade-off', 'Categorical' and 'Decision Trees'.
	Hypothesis 6 - Women have a propensity to use more efficient methods of organising stimuli or cues in the decision-making processes e.g. Categorical and/or Decision Trees, than men.
Displays	*Hypothesis 7* - Displays incorporating vertical blocking of products will have a higher propensity to be noted by passing customers, than if the same products were horizontally merchandised.

As will be shown, the hypotheses outlined above are:

- Logically derived from the two main hypotheses 1 and 2.

  and

- Are testable – unlike the main hypotheses.

The next three chapters will outline the development of these hypotheses, testing procedures adopted and the results of these tests.

SELECTION OF THE AREAS

As mentioned particularly in Chapter 1, shopping is a complex and varied field of activity. The three areas covered in the research only represent a fraction of the possible candidate areas that could have constituted tests of the main hypotheses. The choice of these areas was conditioned by a number of factors. Firstly, packaging, decision making and displays do represent core areas of activity and as such are both worthy of study and represent major elements of the subject of the study – shopping behaviour. Secondly, they represent feasible topics in terms of budget and logistics. As will be discussed later, the behaviour

being researched is primarily subconscious. This makes it often difficult to access via conventional research techniques, for example, surveys or focus groups. As a consequence, the packaging and display research required research materials to be produced and in the case of the display research permission obtained from the store owners. The budget for the research materials and the store owners' permission were only forthcoming as a result of commercial interest in these particular areas.

It might seem preferable to address the issue in a more comprehensive manner and carry out tests on behaviour over the totality of a store. A route that would be feasible, would be a 'controlled store test', modifying a store in line with the hypotheses developed and measuring behaviour before and after the change. Regrettably, academic research needs to accommodate to highly restricted budgets and in the case of store testing, agreement of the storeowners - which is extremely difficult to obtain. The disruption to the store and massive cost of refitting a complete store is prohibitive for purely academic research. The author was very fortunate indeed to obtain the funding and permission to carry out the limited test on a single display, described in Chapter 8. To the author's knowledge, no such study - on a whole store - has been carried out in the academic field, presumably for the reasons outlined. Thus, the areas selected for the testing appear to be justified on the grounds of both feasibility and that they represent core elements of the field of study.

SUMMARY

The classical models of buyer behaviour see the role of the attention span as a mechanistic limiting function on information processing. In contrast, this review of the psychological literature would present it as occupying a central role in our interaction with the external environment. However, its role is not just as an intermediary filter in a stimulus - object - response model. The fact that the attention is variable, can be directed and is conditioned by meaning, implies that it not only conditions our perception of the environment but in turn is conditioned by that perception. Thus, it is not a fixed "one-way" filter but rather in line with the interactionalist stance of Tauber/Holdbrook and Hirschman, it has a key role in the interaction of the individual with their environment.

Two features of this selective interaction have been identified; these are that much of it may be based on learned behaviour, and also on selective cues or stimuli that have potential meaning for the shopper. Whilst the hypotheses incorporating these are of themselves impossible to test directly in practise, it is feasible to test certain hypotheses that are logically derived from these hypotheses. The remainder of this thesis will be devoted to the development and testing of such derived hypotheses. The first of these concern the perception of packaging, which will be reviewed in the next chapter.

CHAPTER 6 - PACKAGING

INTRODUCTION

The remainder of this thesis will be devoted primarily to developing and evaluating the evidence for the two hypotheses developed in Chapter 5, that the interaction with the store is a highly selective reaction to a series of stimuli based on the meaning and relevance of those cues to the shopper. As was discussed in the last chapter, as it is not possible to test these hypotheses directly and therefore testing will be via secondary or subsidiary hypotheses, that are logically derived from these, a test of the latter serving as a test of the former. The first set of subsidiary hypotheses will cover the area of the communication of packaging .

LITERATURE REVIEW

Scope of the Enquiry

There is a voluminous literature on the topic of packaging. However, as Dleiza and Macfie (1996) point out, the information on the role of packaging in creating choice and the influence of sensory stimuli is 'an immensely complex topic which has had very little research attention'. In fact the wider issue of design in general, has received scant attention in marketing, 'despite the centrality of product design to marketing practise and society as a whole, empirical studies of design issues are rare in marketing' Bloch (1995). There is general agreement that packaging is required to fulfil a number of different roles. Govoni *et al.* (1986) divide the roles simply into protection of the product and communication. In contrast, Stewart (1994) produces a list covering:

Containing the product	Prevent disintegration
	Leakage
Protect the product	Against transit damage

	Moisture
	Gases
	Odour
	Degradation
Identify its contents	Describe
	Inform
	Promote

The Institute of Packaging (1963) provides a shorter enumeration but one which is equally diverse in scope. It maintains that packaging serves "one or more of five basic requirements":

- Protection and prevention
- Containment
- Machine performance
- Communications

and

- Convenience

Thus, packaging is a complex and many faceted topic. However, the research reviewed in this chapter, focuses on only one of these roles, communications.

To further complicate the issue, there is also a very large body of literature on legislation on packaging. In addition, the current interest in environmental issues has produced a body of

literature on green issues in packaging. These areas are also regarded as not germane to this study.

Whilst the preceding overview has reduced the scope of the enquiry considerably, there is still divergence amongst authors as to the role of packaging, even in this considerably more limited communication function. This divergence appears to be based on the multi-faceted nature of packaging. Different authors emphasise different roles. One school considers packaging communication from the perspective of conveying information in terms of primarily written communication. Shrimp (1997) defines the information role of packaging in terms of key words on the package, information on the back panel, ingredients, warnings, pictures and illustrations. He then somewhat contradicts himself, by introducing the 'emotional appeal' of the pack which is concerned with 'the ability of a package to evoke a desired feeling or mood'. This would appear to be a form of potentially or primarily non-verbal communication or information. Caswell and Padberg (1992) see the communication of food labels in terms of "nutritional and health claims" but then conclude that their use by consumers is limited, as the latter have insufficient time/inclination to process the information in-store. The focusing on the factual, primarily verbal, information on labels appears to reflect a frame of reference that is probably based on the ratio/deductive model of shopping behaviour which was discussed earlier, in that these elements are appropriate factors to use in rationally calculating expected utilities.

An alternative frame of reference is that of "design". The great majority of packs contain some element of design or aesthetics. However, designers draw the distinction between their research approach and that of the empirical sciences. As Press (1995) states, 'knowledge originating from art is unverifiable, subjective, cannot be universally applied and begs interpretation and involvement with the observer'. He explains that designers aim to effect change in the material world rather reflect it in the mind: 'designers look at the material world, compare their observations with their value preferences of how the world should be and propose changes of a material nature rather than changes in knowledge'. Similarly Archer (1995) holds that whilst research in the sciences tradition is objective in nature, almost

all arts activity is basically subjective. As this thesis is within the empiricist tradition, it would seem that much of the work in the field of design is outside its scope. As will be noted later, this represents an (inevitable) limitation of the research.

The literature in the marketing field that focuses on the totality of communications - not just the verbal, provides intriguing insights. Though the paucity of empirical research, noted earlier, means that they tend not to be particularly formalised or in-depth. Smith (1996) amongst others, pays fulsome tribute to the importance of packaging in terms of its communications role - the silent salesman. He notes that many of the elements contributing to this communication - pack type, shape, graphics, colour etc., but advances no theoretical basis to explain this. Rothschild (1987) states that packaging must convey the 'positioning image. The package must capture the uniqueness of the brand and convey it...The package must give the appropriate cues to the consumer through its shape and visuals.' However, he gives no further explanation of this, except to indicate the importance of colour on perception and that 'unlabelled, labelled and improperly labelled beer yield very different preferences'. Unfortunately, he does not state what is an improperly labelled beer nor references any research to justify this claim. De Rouffignac (1990) claims that the customer's perception of the product is primarily the packaging, he also notes that the design of packaging can help to upgrade or reposition a product. Apart from stating that it must be right for the product and have visual impact he gives no further insights on the matter. Paine (1990) simply states that 'the basic function of all packaging is to identify the product and carry it safely through the distribution system'. Knowles (1996) also comments on the recognition aspect of the pack, 'packaging which does not attract the eye nor communicate recognisable values in a split second will not be effective'. Thomas-Emberson (1997) discusses the role of packaging in terms of "values" and "identity", but again does not develop these concepts. Wells and Prensky (1996) deal at length with the psychology of perception and its role in consumer behaviour. Regrettably, their only reference to packaging is that consumers' attitudes are formed in part by evaluating packaging features that offer convenience, ease of use, and environmental benefits. Nancarrow *et al.* (1998) directly address the communication mechanics of packaging. They state that 'effective labelling on packaging would underpin the main forms of marketing communications' and discuss the use of past experience to aid the

interpretation of stimuli. Intriguingly, they state that 'in the whiskey market, consumers use a number of design cues to infer age', but regrettably do not develop this further except to say that they can be misleading.

As mentioned earlier, writers such as Rothschild and Nancarrow touch on the existence of "cues" in packaging communication. Other writers are a little more explicit on this topic. Sara (1990) states that 'consumers choose to buy from the image they perceive that a product has, and what they perceive is heavily influenced by cues given by the products' packaging: brand name, colour and display'. Unfortunately he does not develop this line of thought any further. De Chernatony (1991) discusses the use of cues in respect to limited external search and simplifying heuristics in pre-choice information processing - a topic that will be covered in greater depth in the next chapter. He identifies packaging cues as having a major role in this process but 1) primarily in the context of brand recognition and 2) develops the thesis no further as to the nature of cues or the communication process involving them.

Some evidence as to the nature of the communication process is provided by the research into hazard/nutritional/health warnings. It was noted earlier that this is limited in its scope and therefore cannot be presumed to apply to necessarily the totality of packaging communications. This research shows that quite small changes to the positioning, colour, shape, orientation etc. of these communications can materially affect their communication effectiveness (for a review see Buckley and Sheppard 1993). This could be seen as suggesting that consumers are selective in the areas of packs that they utilise and the nature of the communications that they are prepared to absorb.

Thus, there appears to be general agreement that packaging is integral to communication in-store and that part of this role is to "position the product". There are also suggestions that perception is selective and that cues are used in this process, though the nature and role of these is not developed. This direction is very much in line with the hypotheses developed at the end of the last chapter. In Chapter 5, it was suggested that shoppers have developed schemata in order to cope with the complexities of the shopping environment. A particular aspect of this, highly relevant to the field of packaging, is that it was hypothesised that

"recognition of qualities in an object is based on highly selective cues which are selected as having meaning or relevance to the subject. It is these that condition resultant behaviour" (hypothesis 2).

Prior to purchase, the consumer is dependant on the external appearance to determine the qualities of the product, that is, market positioning. In most product fields this will be based on the packaging. It will be suggested later that schemata also play a role in this. If the hypotheses developed in the last chapter are correct, it can be further hypothesised that consumers have probably learned - in a particular product field - a set of "highly selective cues" that suggest a market positioning for brands in that product field.

Hypothesis 3

> Consumers use a limited set of visual cues derived from the packaging of a brand, that in part determine the market positioning of that brand.

An obvious inference of this hypothesis that converts it into a testable format is:

Hypothesis 4

> Changes in the "cue" structure incorporated in a packaging design will alter the market positioning of that brand.

Thus, if the cues for a particular product field can be identified and the packaging of a brand altered to feature different manifestations of those cues, the predicted outcome would be a change in the market positioning of that brand.

In the research presented in this chapter this relationship is evaluated. This represents part of the evaluation of the central hypotheses formulated in Chapter 5, which of themselves are not

at present at least testable directly. As discussed in the last chapter, as it is not possible to directly test the main hypotheses, the alternative route of testing secondary or subsidiary hypotheses that are logically derived from the main hypotheses has been selected. The testing of the latter serves as a test of the former. In this case, hypothesis 4 is logically derived from hypotheses 1 and 2, in that it is a particular case of these. Therefore, a test of hypothesis 4, represents in itself a test of the central hypotheses - 1 and 2.

RESEARCH

Research Design

All but one of the research projects presented in this thesis involved a classical experimental design, to control for the effect of extraneous variables intervening in the measurement of the relationship between dependant and independent variables. The objective of an experiment is to measure the effect of explanatory variables or independent variables on a dependant variable while controlling for other variables that might confuse one's ability to make causal inferences (Kinnear and Taylor 1996). Sources of extraneous variables or 'error' are legion, varying from fairly technical factors such as test effect, to vagaries of the weather or simply mistakes. Even if care and skill are used, all experiments can and usually are subject to extraneous factors that are uncontrollable or unknowable at the outset.

All the experimental designs offered in this thesis make use of a control group, which in theory at least makes it possible to discount the effect of extraneous variables (Crimp 1990). In its classical form this allows measurement to take place on two matched groups, but the experimental treatment to be applied to only one. The comparison of the effects or outcomes of both groups, in theory at least, allows the effect of the experimental treatment or stimulus to be isolated (Heiman 1995). This of course assumes that the experimental design and measurement instruments are themselves free from error.

The test considered in this chapter uses a straightforward "after only" design. Two samples were selected, matched by random sampling. One sample was exposed to the test, and the

other control material. After exposure, the effect of exposure was measured for both groups. Any differences between the two groups is attributed to the experimental stimuli (Malhotra 1991). As the test was conducted simultaneously with both groups, it can be assumed that temporal factors, such as 'Maturation', 'History' (events occurring simultaneously with the experiment) etc., can be discounted. Thus, an 'after only' research design would seem appropriate under the circumstances (Dillon *et al.* 1990). Whilst this is probably the most straightforward of all experimental designs, a key factor in its efficacy is the validity and reliability of the measurement tools used.

Validity and Reliability of the Research Instruments

The research presented in this chapter relates two constructs - market positioning and visual cues. For both, research tools needed to be constructed.

Market Positioning

The accuracy of any measurement tool is dependant on its 'reliability' - freedom from random error - and its 'validity' - the extent to which it 'reflects the desired construct without contamination from systematically varying constructs' (Judd *et al.* 1995), - also called systematic error. The procedure for establishing measures of attitudinal constructs, such as market positioning from scales, has been fairly well developed of recent years. Babin (1997) and Churchill (1979), for example, outline the following steps:

- Specifying the constructs' definition and domain.
- Generating an initial items pool that captures the domain as specified.
- Purifying the measure, selecting those items from that pool, in terms of the "most relevant" in measuring the construct, particularly in terms of their reliability and validity.

Churchill maintains that if these steps are followed and the appropriate statistical tests used, the resulting measurement tool should be both reliable and valid. The construction of the scales to measure market positioning follows this pattern. The constructs' definition and domain were discussed at the beginning of this chapter. Generating the initial items pool can be based on any relevant source, though the most common are secondary research, qualitative research and informed opinion (Babin 1997). All these were used in the construction of this tool. To refine or purify the measure factor analysis was used, which also served the purpose of determining the number of separate components that existed (Spector 1992). In this research a not uncommon problem was encountered, that of possible lack of unidimensionality of the summated scale batteries (Gerbing and Anderson 1988). To investigate this unidimensionality testing was undertaken using factor analysis.

Whilst according to Churchill, this procedure should provide summated scales that are valid and reliable, there is an obvious need to test this assumption. Though there is no one method of establishing the validity and reliability of measurement tools for summated scales, there does appear to be relatively general agreement on accepted approaches that will support or otherwise the tools used. As classically stated, the relationship between the observed or measured score and the true score can be expressed as:

> Observed score = true score + systematic error (degree of validity) + random error (degree of reliability) (Judd *et al.* 1991)

Obviously, reliability is a precursor to validity. A score with no reliability, where the results are totally a product of random error, can have no validity. In these circumstances the score cannot in any way reflect any true or accurate measure of the construct.

Reliability

Reliability has been traditionally assessed by using test-retest, alternative form and/or split halves techniques. These techniques can be logistically problematic to implement and it has been suggested that they can of themselves be subject to error (Carmines and Zeller 1979). Cronbach's alpha can be used in place of these techniques. This statistic computes the sum of the item variances, in relation to the sum of the total composite variance. The average correlation among items in the overall summated scale, indicates the extent to which a common core is present. The dispersion of correlations about this average indicates the extent to which individual items, or scales in this case share in this common core (Churchill 1995). The computation is similar to calculating the split halves method, without the problems encountered in that technique of accurately allocating items to the "halves". The alpha computation identifies items with lack of correlation with other items in the proposed summated scale, which suggests that they should not belong to that summated scale and should be omitted (McDaniel and Gates 1996). Cronbach's alpha varies from 0 to 1, zero implying complete unreliability and unity suggesting perfect reliability. Scores above 0.7 are recommended as the accepted minimum threshold for reliability (Nunnally 1978, Peterson 1994). Whilst certain of the other statistical tests used in this stage of the research provide some insight into the reliability of the scales used, reliability was primarily measured by the use of the alpha statistic.

Validity

As will be shown, the alpha scores achieved were high, in excess of the 0.7 level recommended, therefore a degree of reliability can be assumed. As reliability is a precursor to validity, the question of validity can be now considered. No one test or criterion of validity was used for the summated rating scales used to measure market positioning, rather its validity rests on a series of criteria. The multi-stage scale development approach used was designed to optimise the "domain of content" and therefore the "Content Validity" of the tool. In addition, the relationship found between the marketing map, produced by the tool and the other construct used in the research - the pack schemata - implies a degree of "Construct

Validity", in that the relationship between the constructs, as measured, was in line with the hypothesis linking the concepts. Finally, there was a concurrence between the market map produced by the summated rating scales, with that produced by the qualitative research. Thus, a level of "Criterion Validity" can be claimed (Carmines and Zeller, Zikmund 1994 and many others).

Therefore, in summary, an acceptable degree of both reliability and validity can be assumed for the summated scales that were used to measure market positioning.

Pack Schemata

Statistical tests of course measure the relationship between numerical entities. As will be shown, the pack schemata are purely visual entities, having no numerical concomitants. Thus, no statistical test of reliability could be undertaken. However, validity could be assessed in two ways. Firstly, as mentioned earlier, the relationship found between the measure of this construct and market positioning construct, does imply a level of Construct Validity. In addition, the involvement of the Managing Director of one of the country's leading packaging design companies, would suggest a degree of Face Validity. Whilst not as elegant or academically respectable as statistical tests, face validity is a valid approach. In fact as Robson (1993) comments, 'the methodological complexities of determining construct validity can lead to an unhealthy concentration on this aspect of carrying out an enquiry'.

Summary

The measurement tools used in this research would appear to have at least an acceptable degree of validity. The summated scales used for the marketing positioning construct was successfully tested formally for reliability. Thus, it seems acceptable to assume that the tools used in this stage of the research were accurate and suitable for their purpose.

OBJECTIVE OF THE RESEARCH

The first step was to identify the cues in packaging used by consumers to ascribe product positioning to brands in a chosen product field. The second step was to manipulate these cues for chosen brands, so as to alter that positioning in a predictable manner, in line with hypothesis 4 - "changes in the 'cue' structure incorporated in a packaging design will alter the market positioning of that brand."

Overview of Research Methodology

The product field chosen for this research was (potato) crisps - for reasons outlined later. In operational terms, the procedure was to identify the "cues" used in the packaging of this product. The packs were then re-designed, so as to alter or manipulate these cues in such a way that a predictable change in market positioning would occur. To measure any change, packs with and without the modified cue structure were tested, with a "split sample". Using a classical "after only" research design, one sample acted as a control being exposed only to the unmodified packs. The other, the test sample, was exposed to the test stimuli - that is, the modified packs. The market positioning of the products, as projected by the packs, was measured for both samples using an identical technique. As discussed earlier, any differences between the outcomes - in this case the market positioning of the products - between the two samples is assumed to be a consequence of the modifications incorporated in the test materials.

The Sample

Students were used for this research. As well as the convenience and cost aspects, the research concerned what was primarily a basic perceptual process. Much research in perceptual psychology is carried out with students, there seems no reason to suppose that their basic perceptual processes are that different to the population in general. The product field selected was potato crisps on the grounds that it represented a well known and frequently used product for this group. As Table 6.1 shows, penetration amongst this age group is high, in

addition there is a little gender bias. Finally, the low unit cost of the products in the sector also recommended it, given the income of students.

Table 6.1 - Crisps eating analysis

Heavy users of Crisps	
Base: All Adults	25,132
	%
Penetration by category	
All	22.3
Men	23.0
Women	21.6
Age	
15-24	41.3
25-34	34.4
35-44	26.9
45-54	15.1
55-64	9.0
65+	5.2

Source : Mintel

All students interviewed were studying courses administered by the Business School of De Montfort University. The research was conducted between September 1996 and February 1997.

Qualitative

This research step had two purposes. The first was to generate the "Universe of Content" for the summated scales to be used to measure the market positioning of the crisps, featured in the research. As such, it formed the basis of the initial scales that featured in the screening or

"purifying" stage that resulted in producing reliable summated scales. The second function was to identify the cue structure currently used in the market, which it was hypothesised helped to determine market positioning.

Two group discussions were conducted - one group were males and the other females. All respondents regularly purchased and ate potato crisps - defined as at least once a week. The groups were convened by the author, an experienced group discussion convenor. Rob Barker, of Visuality Ltd., a leading packaging design agency, attended in the role of design expert to identify in design terms the packaging elements that represented the cues in this sector.

RESULTS OF THE QUALITATIVE RESEARCH

PACK CUES

In the research respondents created a rough market map. The dimensions they used were 1) quality of product, 2) how different or distinctive it was and 3) whether it was an adult or child orientated product.

They were quite clear as to the positioning of most of the brands, even if they had not tried them or even if they had not seen them before e.g. new or regional brands. Certain brands caused problems, respondents might be uncertain as to the positioning or they could occupy a dual positioning. This appeared to be when 1) the packaging contained contradictory cues - for example Roysters or 2) respondents who had not tried the product working from the packaging cues held one opinion but those who had tried the product, and ignored the packaging cues held another - for example Frisps. This brand was regarded in packaging terms as a children's brand but amongst users the product format and taste conveyed an adult product.

Cue Structure

The cues established from the research were:

High quality cues

Use of heavy weight foil as the packaging medium.

Strong primary background colours.

Certain colours and shades that were prominently displayed that were identified by the packaging expert as traditionally associated with quality e.g. black and deep red.

An illustration of the product (rather than a window that allowed the actual product to be seen).

The brand name displayed in a "banner" - a designer's term roughly referring to a strong, contrasting, colour block around the name.

A simple, minimalist, design that had the brand name at the top and product illustration at the bottom.

Low quality

Cellophane or light weight foil as the packaging medium.

Use of white as a prominent element.

Displaying the actual contents via a transparent window in the pack.

Use of colours that are light or technically regarded by designers as "weak".

Children's products

Use of complex designs.

Not using the hierarchy of name at top, product illustration at bottom.

Use of vibrant colours or unsophisticated combinations of colours.

As parents tended to buy cheaper products for children, products perceived as quality/cheap were also designated children's, for example the use of cellophane as the packaging medium.

Finally, some packs were obviously aimed at children because of their brand names e.g. "Monster Munch" and/or contained graphics incorporating child oriented themes e.g. cartoons.

PROCEDURE FOR CREATION OF SUMMATED SCALE BATTERY FOR MEASURING MARKETING POSITIONING

Initial Questionnaire

On the basis of the group discussions, a questionnaire containing 32 scales was constructed. These covered all the parameters found to be used when positioning brands in this market. In addition, where respondents used more than one term or phrase to designate a parameter, scales using the alternative wordings were used. The format of the scales was seven point semantic differential, sometimes referred to as an "Osgood" scale (Kinnear and Taylor 1991).

The questionnaire was administered to 113 students, each were asked to rate 2 two different brands of crisps using the 32 scales. This generated a total of 226 questionnaires (only 225 were analysed as one questionnaire was unreadable). The order of presentation of brands was

rotated over the whole sample. The questionnaire was self completion though the interviewer supervised the completion.

The results of the survey were analysed using SPSS for Windows (Version 6.1).

Analysis

Factor analysis

The responses to the scales were initially analysed by factor analysis (PCA), varimax rotation was applied. The screen plot initially suggested a two, possibly three factor solution. However, when the factor loading plot was examined, it suggested that the first factor was comprised of two elements. To investigate this further the same process was repeated but with two- and three-factor solutions being imposed.

Inspection of the factor loading plots suggested that the (imposed) three-factor solution was optimal. In addition, this had a degree of external validity as it corresponded to the map produced by the qualitative research. Finally, in terms of the uni-dimensionality of the factors, the three-factor solution was superior.

Oblique rotation

Oblique rotation was also tried. When the number of factors was not constrained, the factors produced were fairly random - in all but one case isolating just one to three scales per factor. When a three-factor solution was forced, meaningful results were produced but virtually identical to the Varimax three-factor solution. Therefore, as this route suggested no material difference or advantage, over the Varimax solution, it was not persued further.

PCA with varimax rotation

Summary statistics

Kaiser-Meyer-Olkin measure = 0.95

It can be assumed that the variables have a good degree of correlation and suitable for factor analysis.

Percentage of variance explained:

Factor	Percent of Variance	Cumulative Penetration
1	50.5	50.5
2	10.0	60.5
3	6.3	66.8
4	4.1	70.9
5	3.3	74.1
6	3.2	77.3

The analysis ceased at 6 factors as the default of eigenvalue of 1 had been reached.

The plot suggests a 2- or 3-factor solution - plots are incorporated in the appendix.

Only 11% of residuals were greater than 0.05.

Two- or three-factor solution

In order to test the appropriateness of a two- or three-factor solution the PCA was repeated in an identical form but forcing firstly a two- and subsequently a three-factor solution.

The factors produced were tested for unidimensionality.

Two-factor solution

A large number of scales were highly related to factor 1, 20 scales had factor loading greater than 0.7. The scales associated with factor 1 were also known from the qualitative research to be somewhat heterogeneous. This impression was confirmed by the factor plot. This showed a dispersion of scales around the axis and conveyed the impression that factor 1 was made up of two groups of scales.

To test for "unidimensionality" of the factors, those scales that were highly associated with factor 1 were separately analysed by PCA. The process was repeated for factor 2.

In the two-factor solution the "new factor 1" only accounted for 60.6% of the total variance. In line with this the factor plot (after rotation) suggested that there was a high degree of dispersion.

Factor 2 was more coherent representing 84.4% of total variance.

However, given the problems with factor 1 it was decided that the two-factor solution was unsatisfactory.

Three-factor solution

The factors when tested for unidimensionality accounted for the following percentage of variance:

Factor 1	74.9%
Factor 2	84.7%
Factor 3	91.5%

Dimensions with a factor score of over 0.7 being submitted.

Thus, the three-factor solution had better overall uni-dimensionality scores of its factors.
In addition, the map generated from this solution corresponded closely to that found in the qualitative research. Thus, it had a degree of external validity.

In addition, factor 1 and factor 2 corresponded to the two groups of scales that had been observed in factor 1 of the two-factor solution.

For these reasons the three-factor solution was accepted.

Factor Scores

The factor scores for the final solution were:

Question/Scale	Factor 1	Factor 2	Factor 3
20	.84319		
28	.83368		
13	.81343		
15	.80353		
10	.76090		
32	.71503		
14	.70925		
22	<0.7 set as default		
26	<0.7 set as default		
9	<0.7 set as default		
27	<0.7 set as default		
17	<0.7 set as default		
24	<0.7 set as default		
23	<0.7 set as default		
1	<0.7 set as default		
3	<0.7 set as default		
2		.81770	
12		.81025	
5		.80281	
6		.79898	
21		.74656	
18		.71484	
19		.71484	
7	<0.7 set as default		
31	<0.7 set as default		
16	<0.7 set as default		
29	<0.7 set as default		
30			.92840
11			.91360
25			.90754
4			.90754

Cronbach's Alpha

Factor 1

As mentioned earlier, certain questions were virtually identical, just using different wording to express the same concept. From the analysis, it was shown that they did indeed express the same concept. For example, "Pack looks different" and "Pack is different". It was felt that it could now be safely assumed that the difference between these was semantic rather than actual. Therefore, from factor 1, two scales were removed on these grounds. The alpha coefficient obtained from the six questions remaining associated with factor 1 was 0.92

Factor 2

From factor 2 two scales were also deleted for the reasons given above. The item to total correlation of one question - q 21 - was considerably lower at 0.61. It was therefore deleted. The data was re-run with an alpha score of 0.94

Factor 3

As all the questions for factor 3 were found to be directly related to being a kids product, it was decided to simply select the one with the highest factor score.

In terms of the reliability of the summated scales produced by this procedure, it should be noted that alpha scores are in excess of 0.9, which would be regarded as high and well in excess of the 0.7 recognised as the threshold minimum. As such, a degree of reliability can be assumed for the measurement tool of market positioning.

Final scales

As a result of this analysis, ten scales were selected to constitute the questionnaire to be used for market mapping. These were:

Dimension 1 - Called for convenience - **the "quality" dimension**

A quality product

Would be nice

An indulgent product

Good taste

Dimension 2 - Called for convenience - **the "different" dimension**

Different taste

Pack looks different

Would be seen eating them

For special occasions

Strong flavour

Dimension 3 - Kids dimension

For kids

FINAL STAGE OF RESEARCH

Following the qualitative research two brands were selected for "redesign". These were "Roysters" and "Seabrook's". Changes were made in the packaging of these products based on the cues established in the qualitative research. The objective was to select or emphasise the cues associated with the quality positioning of these brands - so as to improve the positioning on this dimension. In the qualitative research both of these products had been identified as being good quality products but their existing packaging contained cues that were considered to be "downmarket".

The changes made to the packs were:

Roysters: It had been hypothesised that white was associated with poor product quality. The existing Roysters pack contained a white "banner" around the brand name. This was changed to blue. As the background colour of the "banner" was now blue, the brand name was changed to white reversed out of blue and the lines at the top of the pack also reversed in colour.

Seabrook's: This was completely redesigned as a more mid-market product. The following elements were associated with a poor quality positioning. These were changed as indicated.

- **A cellophane pack** - which was altered to foil.

- **The white background** - this was changed to green.

- **The actual product was visible in the original pack** - an illustration was substituted.

- **The brand name had no 'banner' surrounding it** - the banner was added.

- **The pack did not conform to the hierarchy of brand name at the top, product illustration below** - this was also 'rectified'.

These were the key changes. The designer also made minor modifications to "tidy up" the pack, as it had been identified as over complex.

Note on Design: it became apparent during the research and particularly in discussion with the designer that a certain degree of creativity is required in pack design. This reflects comments of Press (1995) and Archer (1995) that there is an element of subjectivity in design. It was apparent that it is not possible to just add and subtract elements of a pack to achieve a new positioning. These changes can effect the design "balance" of the pack and that other modifications may be necessary to address this. The Seabrook's re-design was a radical representation in line with the findings of the research. The Roysters redesign was minimalist - the change in the background colour of the "banner". However, it was necessary to make other slight, virtually imperceptible, changes to restore this balance. The illustrations of the packs prior to and after the redesign illustrate this point.

Illustrations of two other brands, "Walkers" and "McCoys" were selected to be included in the research, though no changes were made in this case to the design of the existing packaging. The reason for their inclusion were, firstly, they act as a "blind", to disguise the purpose of the study, and thereby reduce undue attention given to the two test products[1]. The objective being to minimise the "test effect" from this source. The second reason was to check the sample matching of the two halves of the split sample. A key variable might have been the attitudes of respondents to crisps, or even crisps' packaging, in general. If this had varied between the two samples, then there would have been serious questions as to the effectiveness of the control sample. The inclusion of two brands - Walkers and McCoys - which were unaltered between the test and control samples, would allow the matching of the two samples to be checked in this respect.

[1] In market research terminology, the inclusion of stimuli in a test which act as blinds to disguise the purpose of a study, which are unaltered between samples, are usually called "control" products or "controls". Whilst this is something of a misnomer, this convention will be used here. The McCoys and Walkers packs will be referred to as the Control Products.

Sets of photographs of four packs were assembled. These contained in one case the two control brands - Walkers and McCoys - plus pictures of the two redesigned packs - this will be called the "test" set. In another set, the two control brands were shown with pictures of the test packs in their original format - this was the "control" set.

A split sample technique was used to evaluate if the redesign of the packs altered the market positioning of the brands. A total of 434 students were asked to look at the photographs and for each pack illustrated rate the product on the scales derived from the screening exercise.

The Sample

All the respondents regularly bought and ate crisps, defined as at least once a week. As it was believed that the cue structure of the packs was learned - see discussion at the beginning of the chapter - it was decided to restrict the research to respondents who had been brought up in Great Britain[2]. Respondents who had been brought up in other countries may have learned a different cue structure in the market operating in that country.

Half the sample was exposed to the test set and half to the control set of photographs. The sampling method to select the matched samples was "simple random", using equal interval sampling. The research was carried out prior to the start of lectures. Firstly, all students who qualified for the research were identified - by usage and country where brought up. The control and test set of photographs were distributed by giving alternative respondents a test then a control set.

Sample matching

Given the discussion on the role of control samples in test design earlier in this chapter, it was essential to ensure that the two samples were correctly matched.

[2] This referred to mainland Great Britain. It specifically excluded Northern Irish respondents, as the brand leader in Northern Ireland is Tato, which has little distribution in mainland GB, Walkers - the Great Britain brand leader - is not generally available in Northern Ireland..

Demographics

Table 6.2 – 6.4 shows that the samples were well matched in terms of demographics.

Note: bases of tables may vary slightly. As the questionnaire was self answering, certain questions were missed by respondents or unreadable by the optical mark reading used to analyse the questionnaires.

Table 6.2 – Control Samples

AGE	**CONTROL SAMPLE**	**TEST SAMPLE**
BASE: All respondents	**215**	**211**
	%	%
18 years or under	9	8
19 years	24	30
20 years	27	25
21 years	16	14
22 years or older	24	23

Pearsons chi square test = 1.9 4 df , p=0.777

Table 6.3 – Control Sample

GENDER	CONTROL SAMPLE	TEST SAMPLE
BASE: All respondents	**219**	**214**
	%	%
Male	53	48
Female	47	52

Pearsons chi square test = 1.22, 1 df, p=0.269

Table 6.4 – Control Sample

RACE	CONTROL SAMPLE	TEST SAMPLE
BASE: All respondents	**215**	**210**
	%	%
White	66	67
Asian	26	28
Afro/Caribbean	3	3
Other	5	2

Pearsons chi square test = 2.23, 3 df, p=0.53

Thus, in terms of demographics, the control and test samples appear to be closely matched. The racial matching was particularly important as it was believed that design aspects, such as colour, might vary by race.

Brand Image

As mentioned earlier, one of the reasons for including the Walkers and McCoys brands in the research was to check the sample matching of the two halves of the split sample. The appendix contains the results, on a scale by scale basis, of the market positioning of the Walkers and McCoys brands, analysed by whether the respondent saw the test or control illustrations. The lengthy scale reduction procedure undertaken was of course to produce summated, or multi-item, scales. Therefore, the results in Table 6.5, are summarised in terms of the three summated scales produced by this analysis. In the case of the "quality" and "difference" summated scales, the arithmetic mean has been used, in the case of the "kids" dimension, as discussed earlier, only one scale was used.

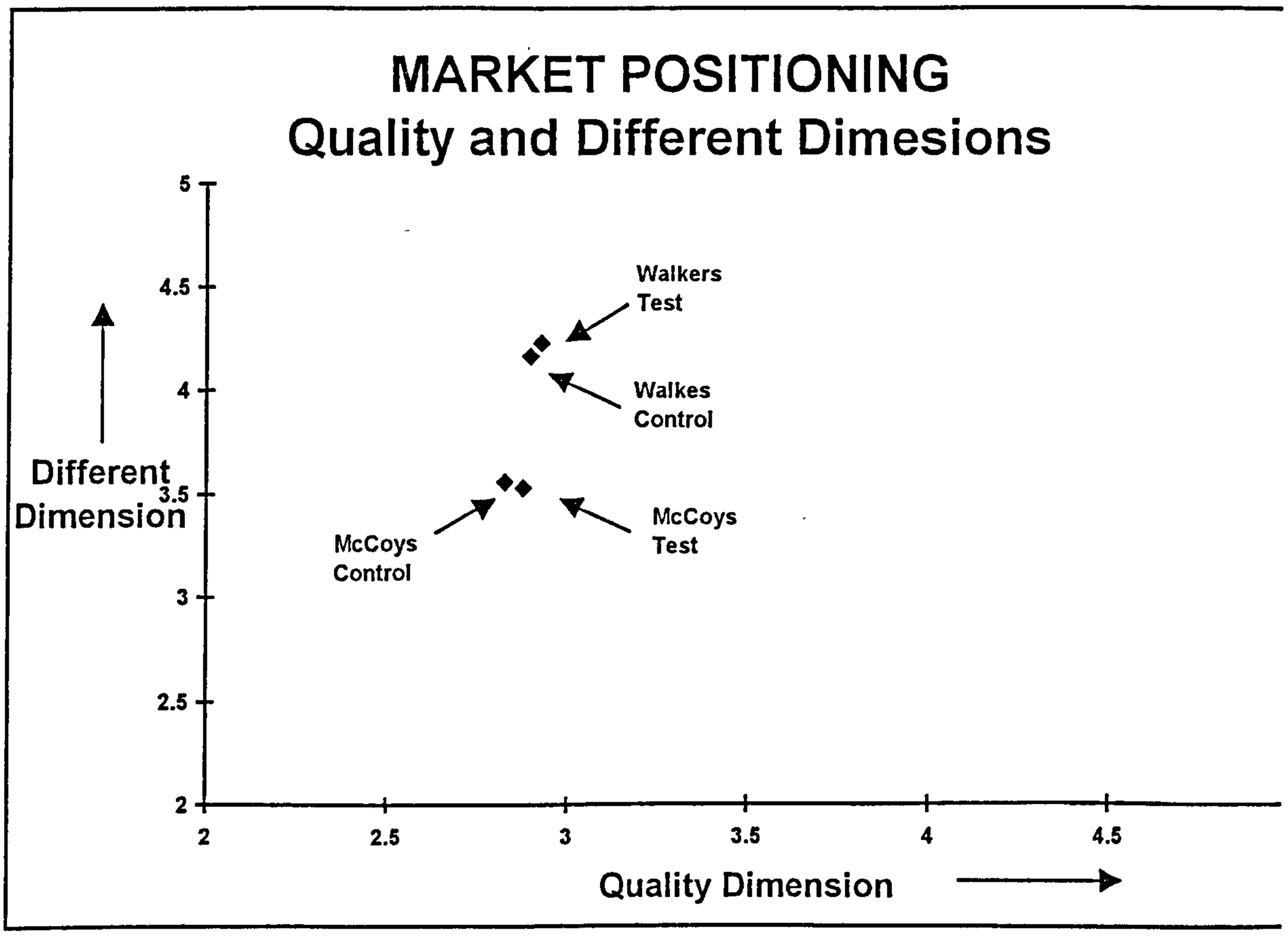
	MEAN RATING ON SCALE (The lower the score the higher the rating)		**SIGNIFICANCE LEVEL** Difference between means - t test
	CONTROL PACK	**TEST PACK**	
WALKERS			
"Quality"	2.9	2.9	Not significant
"Different"	4.16	4.22	Not significant
For Kids	4.71	5.60	Not significant
McCOYS			
"Quality"	2.83	2.88	Not significant
"Different"	3.56	3.52	Not significant
For Kids	3.74	3.64	Not significant

Table 5 – Brands of Walkers and McCoys

As comparing mean scores can be difficult, figure 1 and 2 summarise Table 6.4 and 6.5 diagrammatically. They chart the mean positioning of the two unchanged brands - Walkers

and McCoys, against the three dimensions used in the research - quality, difference and kids. The figures show just how close the market positionings were between the test and control samples.

Figure 1 – Market Positioning for Walkers and McCoys



Thus, it would seem that the market positioning ascribed to Walkers and McCoys was closely matched between the test and control samples.

Summary - Sample matching

In terms of demographics and the market positioning of McCoys and Walkers, the two samples appear to be closely matched. It seems therefore that a reasonable level of confidence can be placed in the control sample to act as a baseline in this research design.

RESULTS

Quality dimension

Tables 6.6 and 6.7 below give the rating of the two packs that were the focus of the research - Seabrook's and Roysters. It shows the mean scores for the four questions used to measure of the "quality" dimension of the market positioning. The lower the score the higher the rating of the product on the dimension used.

TABLE 6.6 - SEABROOK'S

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		**SIGNIFICANCE LEVEL** Difference between means - t test
	CONTROL PACK	**TEST PACK**	
SEABROOK'S:			
A quality product	4.6	3.8	1%
Would be nice	3.9	3.5	10%
An indulgent product	5.2	4.7	1%
Good taste	4.3	3.7	1%
Mean	4.5	3.9	1%

TABLE 6.7 - ROYSTERS

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		**SIGNIFICANCE LEVEL** Difference between means - t test
	CONTROL PACK	**TEST PACK**	
ROYSTERS:			
A quality product	3.4	3.1	10%
Would be nice	3.5	3.1	10%
An indulgent product	3.3	3.2	Not Significant
Good taste	3.6	3.5	Not significant
Mean	3.5	3.2	20%

Table 6.6 shows that the quality ratings of the Seabrook's brand - which was completely redesigned – it shows a major increase on all the scales used to measure this dimension. Table 6.7 shows that the more subtle changes to the Roysters' packaging produced, as might be expected from an apparently minor change, provides less dramatic changes. However, even this small adaptation to the design produced significant changes in the quality rating on at least two of the dimensions used.

The objective of the redesign of the test packs was of course to alter - improve - the perception/rating of these two brands on this dimension, on the basis of manipulating the packaging cues identified in the earlier research. The results above would suggest that this

appears to have been successful. This outcome would have been predicted from hypothesis four. As such, these results would substantiate that hypothesis. As discussed, as hypothesis four is derived from the two general hypotheses - one and two - this in turn would provide substantiation of these central hypotheses.

Different dimension

Tables 6.8 and 6.9, below, give the results of the test for the scales associated with the different dimension. There was no attempt in the research to deliberately alter the positioning of the products on this dimension. The objectives of the research were only concerned with manipulating the cues for the "quality" positioning of the products. However, as Tables 6.8 and 6.9 shows, changes were made in the case of the Seabrook's pack but not the Roysters.

TABLE 6.8 - SEABOOK'S

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		**SIGNIFICANCE LEVEL** Difference between means - t test
	EXISTING PACK	**REDESIGNED PACK**	
SEABROOK'S:			
Different taste	4.3	3.9	5%
Pack looks different	5.0	4.0	1%
Would be seen eating them	4.3	3.7	5%
For special occasions	5.6	5.3	1%
Strong flavour	4.0	3.5	1%
Mean	4.6	4.0	5%

TABLE 6.9 - ROYSTERS

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		**SIGNIFICANCE LEVEL** Difference between means - t test
	EXISTING PACK	**REDESIGNED PACK**	
ROYSTERS:			
Different taste	3.3	3.5	Not Significant
Pack looks different	3.6	3.6	Not Significant
Would be seen eating them	3.4	3.3	Not Significant
For special occasions	4.9	4.8	Not Significant
Strong flavour	3.1	3.2	Not Significant
Mean	3.7	3.7	Not Significant

Discussion

The results for the Roysters pack are not surprising. The changes made to this pack were limited, there was no attempt to modify the cues for positioning the product on this dimension. Thus, the results are predictable, there was no discernible change on the positioning on this dimension.

However, the Seabrook's pack was radically redesigned. The current Seabrook's pack format was old fashioned and as such conservative. The modifications in terms of the use of the cue conventions for a modern, quality product brought the brand into line with more modern

brands. As such, the effect was to bring its standing on the different dimension more into line with conventional products.

Figure 2 illustrates this. The summated scale has been used - the mean score across the ratings comprising that dimension.

ROYSTERS

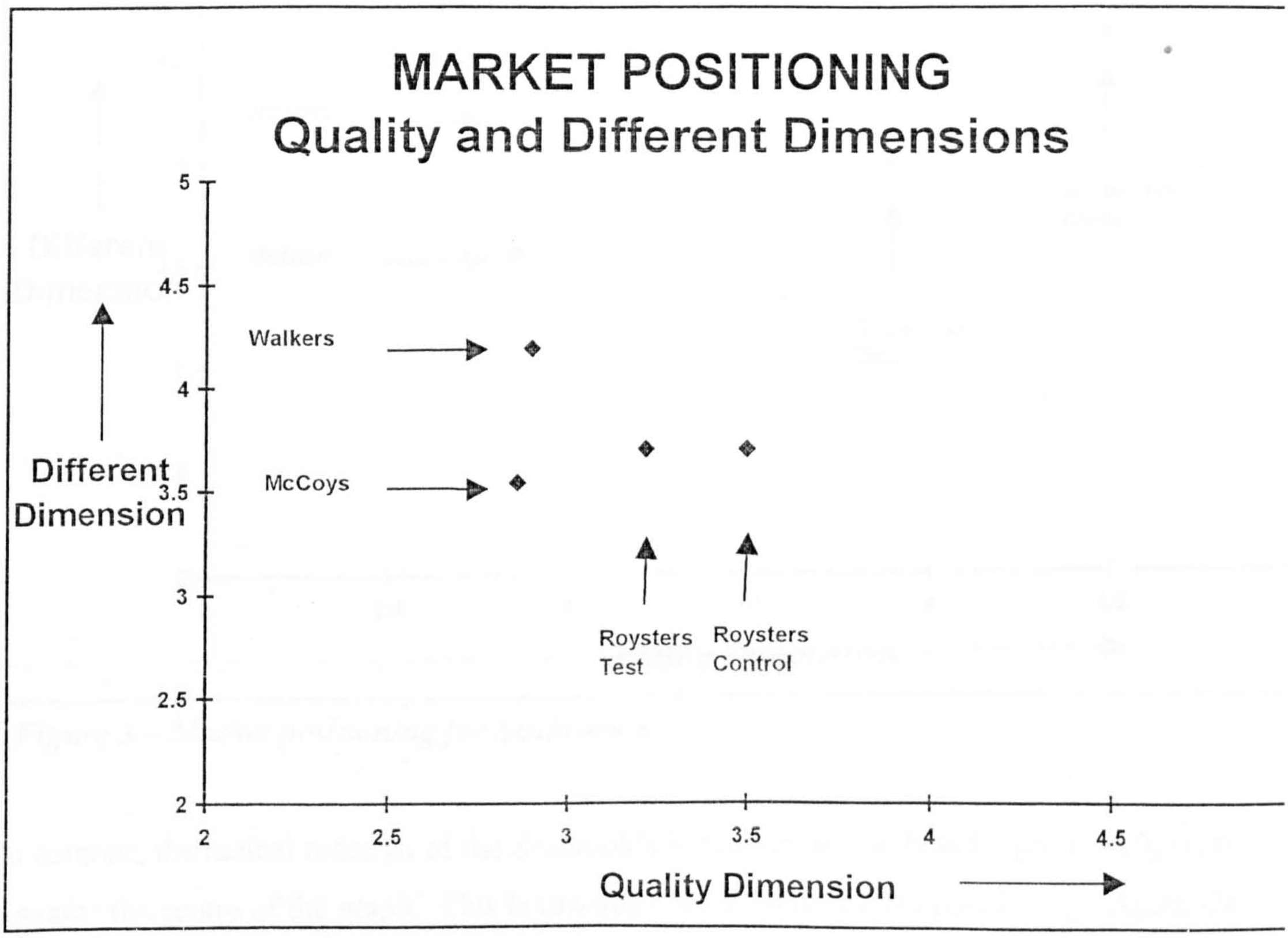


Figure 2 – Market Positioning for Roysters

As discussed earlier, figure 2 shows a definite movement, in terms of positioning, of the Roysters brand after redesign. The direction of the shift on the quality dimension is that intended - of an enhanced quality perception. As can be seen, the removal of just a few cues associated with a downmarket positioning, moves the positioning more closely to that of Walkers and McCoys - two established brands in the market. The cues associated with "difference" were unaltered, consequently so was its positioning on this dimension.

SEABROOK'S

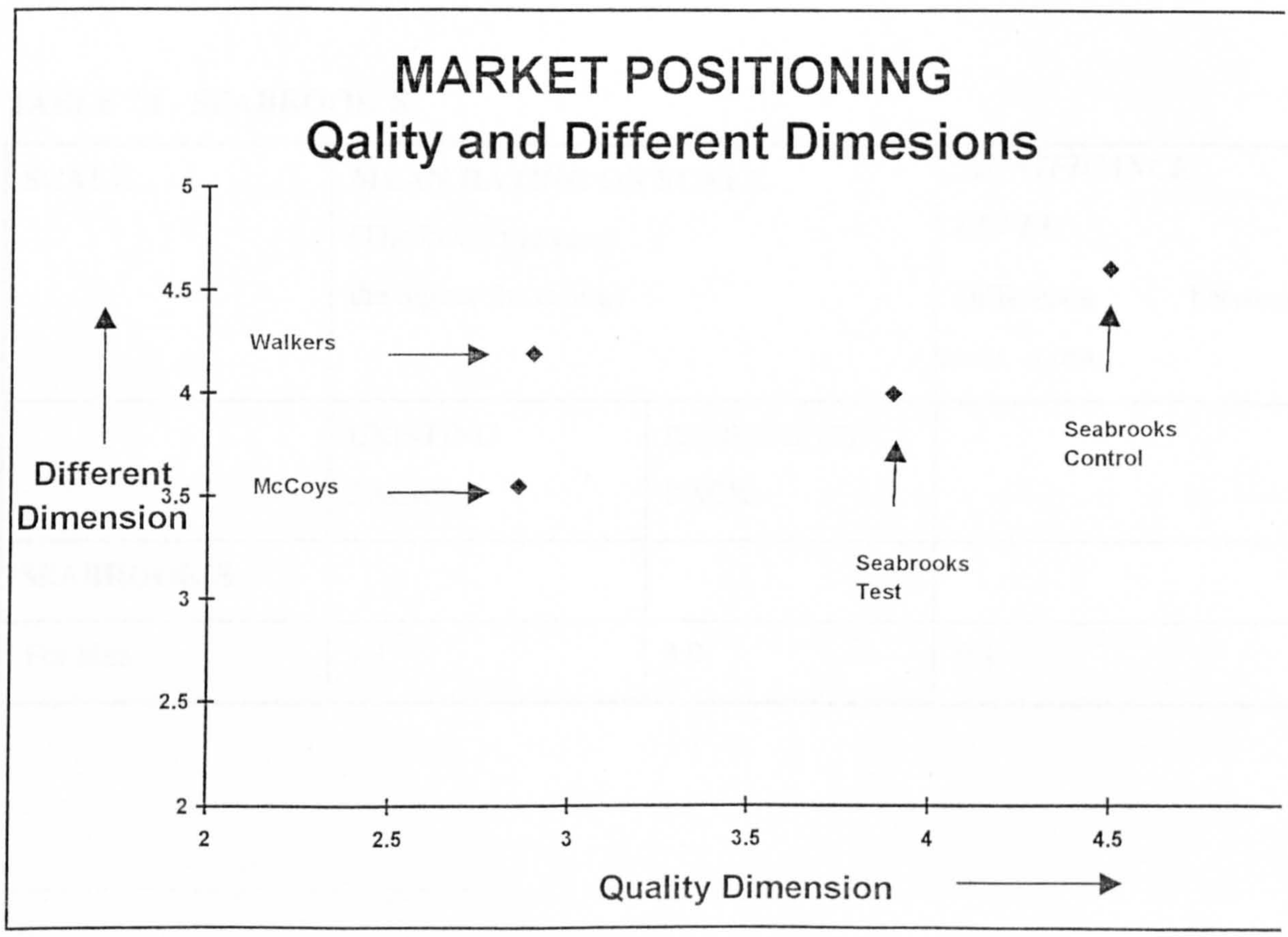


Figure 3 – Market positioning for Seabrook's

In contrast, the radical redesign of the Seabrook's brand moved the brand's positioning more towards the centre of the graph. This is towards a more conventional positioning. Again the direction was towards the established brands of Walkers and McCoys. It could be suggested that the control pack - the existing product - had a very poor positioning indeed, being rated poorly (high scores) on **both** the dimensions. The effect of the redesign appears to have been to simply create a more conventional positioning.

Kids' dimension

As discussed earlier, there was only one question used for this dimension. The results for this scale are shown below in Tables 7.1 and 7.2.

TABLE 7.1 - SEABROOK'S

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		*SIGNIFICANCE LEVEL* Difference between means - t test
	EXISTING PACK	REDESIGNED PACK	
SEABROOK'S			
For kids	3.3	3.9	5%

TABLE 7.2 ROYSTERS

SCALE	**MEAN RATING ON SCALE** (The lower the score the higher the rating)		*SIGNIFICANCE LEVEL* Difference between means - t test
	EXISTING PACK	REDESIGNED PACK	
ROYSTERS:			
For kids	4.5	4.2	5%

The results for the Roysters pack are predictable. There is an association mentioned earlier between low quality looking products and a children's positioning. Thus, improving the quality rating of the pack decreased its rating on this dimension. The result for the Seabrook's pack is at first sight puzzling. It would be expected that its improvement in quality perception would decrease its kids' positioning. However, the opposite is true. The most likely explanation is that the existing pack design scored very low on all dimensions, thus the changes had the effect of bringing the product into line with other brands in the market on every dimension. It is simply moving into a more conventional - less strange - positioning in general. Thus, it becomes more conventional whatever the dimension considered.

SUMMARY

The research presented in this chapter is one of a set of research projects that investigated the central hypotheses, presented in Chapter 5. These central hypotheses are not of themselves testable. Therefore, secondary hypotheses were developed in this chapter, which are logical deductions from these general hypotheses. As was discussed, tests of these secondary hypotheses would in turn constitute tests of the central hypotheses, from which of course they were derived.

The "secondary" hypotheses tested in this stage of research related the (visual) cue structure of a package and the market positioning as projected by that pack. The hypotheses tested were simply that changes in the former will effect changes in the latter.

Hypothesis 4

Changes in the "cue" structure incorporated in a packaging design will alter the market positioning of that brand.

Both market positioning and cue structure are of themselves not observable. Therefore, it was necessary to construct measurement tools of these constructs, that were both "reliable" and "valid". The product field selected for the research was potato crisps. A relatively well accepted procedure of scale reduction was used to create a tool for measuring the marketing positioning of brands in this market. Reliability of the market positioning tool, was established primarily by the use of Cronbach's alpha; validity was established via a number of criteria. The cue structure of packaging is inherently visual and non-numeric, therefore formal testing of reliability was not possible, though validity was established again using a number of criteria. By this process, it would appear that acceptable measurement tools had been created for the two constructs involved in the hypothesis.

In the research the cue structure of packs in the crisps market was identified. On the basis of the cues established, the packaging of two brands were redesigned to incorporate cues that had been established as associated with higher quality perceptions. The hypothesis tested in

this chapter would predict that this would alter the positioning of these brands in this direction. To test this, a classical "after only" split sample test design was used, involving matched test and control samples. Photographs of the redesigned packs were shown to the test sample, whereas the control sample were shown photographs of the existing products. To disguise somewhat the purpose of the test, all respondents were also shown photographs of two leading brands in the market.

The effectiveness of the split sample design depends to a great degree on accurately matching the two samples. In this test strict random sampling was used. In addition, the achieved samples were checked for matching in terms of demographics and respondents' attitudes to the two unaltered brands. The results of this checking suggested that the samples were well matched. As the measurement tools and the test design appeared to be acceptable, a degree of confidence could be assumed for the research method.

The results showed a shift in the market positioning of the two packs redesigned in the direction predicted. One pack - Seabrook's was radically redesigned and showed as might be expected a major shift in its market positioning. The other - Roysters - had been subjected to minimal changes and showed, as might be expected, a more modest change. As the results of the test were as had been predicted from the "secondary hypothesis" - hypothesis four - it was regarded as providing substantiation of that hypothesis. In turn, as this hypothesis was derived from the two central hypotheses, it was assumed to also act as a substantiation for these.

DISCUSSION OF THE RESULTS OF THE PACKAGING SCHEMATA RESEARCH.

Brand Recognition Cues

Further analysis of the research data suggests that an analogous set of cues exist for brand recognition. As discussed earlier, the samples used in the "split sample" design appear to be

well matched. Therefore, it is surprising to find a marked difference between the test and control samples, in terms of claimed usage of one brand.

Table 7.3 – Sample matching on brands used

Question: "Have you ever eaten this brand?	**CONTROL SAMPLE**	**TEST SAMPLE**
McCoys		
Base: All respondents	213	210
	%	%
Used	81	84
Not used	18	16
(Pearsons chi square test = 2.17, 2 df, p=0.54		
Walkers		
Base: All respondents	211	202
	%	%
Used	99	99
Not used	1	1
(Pearsons chi square test = 0.003, 1 df, p=0.96		

Roysters		
Base: All respondents	215	205
	%	%
Used	60	63
Not used	39	37
(Pearsons chi square test = 0.17, 1 df, p=0.67		

Seabrook's		
Base: All respondents	209	199
	%	%
Used	46	34
Not used	54	66
(Pearsons chi square test = 6.9, 1 df, p=0.009		

Note: Bases vary as questionnaire was self completion - respondents did not necessarily answer all questions, in addition the data was computer read, the response to a particular question might not have been readable.

Table 7.3 above shows that sample matching was also close on usage of three of the brands used in the research - Walkers, McCoys and Roysters. Yet, there was a significant difference between the control and test samples in terms of **reported** usage of the Seabrook's brand. Given how very closely the samples were matched on other dimensions - including usage of the other brands - it seems at first sight strange that matching on the usage of Seabrook's should be so different.

The explanation would appear to be that respondents in the test sample - who were shown a radically redesigned pack - failed to recognise the brand. If visual cues exist for brand positioning, there seems no reason to suppose that they should not exist for brand recognition. This is of course reflected in the usage trademarks or logos. These are viewed as acting as

visual encapsulations of the brand or aids to brand recognition (Baker and Balmer 1997, Urde 1994, Peters 1997). Thus, visual representations of colours, shapes, ciphers etc can, by deliberate exposure to the consumer, become associated with a brand. The procedure for establishing a logo or trademark is associated with planned marketing communications. This emphasises elements, which have been chosen by management to communicate, in terms of the brand or corporate strategy devised by management. However, there is no reason why communications of visual elements significant to the consumer should not have also evolved on an informal basis, outside management's predetermined strategy. In other words, another set of visual cues may become associated with brand recognition. Thus, in the radical redesign of the Seabrook's pack, cues that aided brand recognition may have unwittingly been removed. Thus, the concept of visual cues playing a role in positioning the brand to consumers, may also play an equally important role in brand recognition.

Relevance to Shopping of the Research

The results of the research presented in this chapter cast some light on how customers shop. The conundrum was raised in Chapter 5, as to how customers can cope with a modern store that presents the shopper with thousands of potential stimuli to contend with. Yet, with a distinctly limited attention span, they can readily scan all this multitude of stimuli to select the products they require. All this is completed on a regular basis, as a matter of routine. The hypotheses suggested in this thesis is that they have learned a set of schemata, to cope with this task. Learning how to very rapidly recognise products and brands would appear to be integral to this process.

The study by McGoldrick (1982), cited in Chapter 4 divided purchases into "Specifically Planned", "Generally Planned", "Reminder Purchase" and "Entirely Unplanned". Only in the case of the first of these classifications is the product and brand known prior to entering the store. The other behavioural categories, by definition, involve a degree of in-store decision-making, called in this thesis "Unplanned Purchasing". The use of visual cues in packaging would appear to be germane to both styles of purchasing. In the case of Specifically Planned purchases, there is a need to locate the brand, that is intended to be purchased - out of the

multitude of other brands and stimuli. As discussed earlier, there appears to be a set of visual cues associated with brand recognition in-store. In the case of unplanned purchasing, the need is to identify products of the type that will meet the requirements of that customer on that trip. In other words, there is a need for rapid identification of the market positioning of products in-store. For the reasons discussed in Chapter 5, this would need to be unconscious or semi-conscious autonomic behaviour. Visual cues in packaging would appear to have a valid role in this activity.

The role may not be isolated; it may well be related to other aspects of in-store behaviour, which in turn are apparently schemata used in coping with shopping.

Other Applications

The existence of learned cues in product packaging may also play a part in other phenomena in the shopping field. The first of the areas to be considered are "signpost brands".

Signpost brands

Modern merchandising practise emphasises the use of 'signpost brands' to aid recognition of product fields in-store (Phillips and Cox 1998). The signpost brands themselves are dominant brands in the category - usually the brand leaders. The theory states that if they are displayed in the most prominent position in a display in-store, this will aid recognition of that display. Arguably, the mechanism operating could be that firstly the cues incorporated in the brand leader are more readily accessible and secondly cues in the brand leader's packaging may have become a numonic for the whole field.

The first relationship appears to be straightforward. By definition, the brand leader will be purchased and used most often within the sector. Thus, consumers will have a greater potential to have learned the cues associated with this brand. Therefore, it will be easier to recognise these in-store as the schemata, associated with that brand, will be easily activated - compared with less well-known brands. Nancarrow *et al.* (1998), for example, claim that

'past experience will colour, distort or bias their (customers) perceptions of marketing stimuli...past experience will aid interpretation of stimuli'. Thus, the more familiar cues will be more easily processed. The assumed inference by the customer is that if the leading brand in the market sector has been found in-store, then other products in the sector must be in the vicinity.

The second relationship is based on the learned aspect of the cues. The list of quality cues for the crisps sector identified in this research are all possessed by Walkers' packaging - the brand leader in the crisps market. It may well be that the cue structure of a dominant brand has a tendency to become generic, in the eyes of the consumer, to the product field. This thinking is reflected in the current debate over "copycat" strategy of own label brands. This practise involves own label - and on occasions other brands in the field - copying salient factors of the dominant brand in their packaging (Smith 1998). It has been claimed in defence of this strategy that it is not 'a deliberate intention to deceive with lookalike packaging' but rather that the salient elements have become 'part of the total experience for the consumer, the semiotics, if you like of that product (field)' (Emberson 1997). Thus, the cues associated with the dominant brand have become synonymous with the product field. They will be best encapsulated in that dominant leader; thus the product field will be most readily communicated by the cues in that brand. For both of the reasons cited, if the dominant brand in a product field is prominently displayed in-store, it will thereby act as a signpost for the category.

Sorting products

Whilst the cues contained in packaging may help identification of product fields in-store, they may also have an equally important role in identifying segments within a display. This topic will be discussed at length in the next chapter. In essence, the hypothesis presented in that chapter is that customers often carry out a two stage sorting process when choosing products in-store. In the first stage they rapidly reject products of no interest to them, then weigh up the benefits of the remaining group. The evidence is that this sorting process is very rapid indeed. Data provided by Procter and Gamble to the author suggests that a customer in front of a shampoos display that contains around 60 brands will spend 50 seconds selecting a product. To carry out the two-stage decision-making process in this time means that in the first stage only a fraction of a second can be spent selecting or rejecting each product. Obviously, some form of short cut is needed. It may well be that the pack cues have a crucial role in this first, sorting, stage. This usage of visual cues, in this context, will be discussed in more detail in that chapter.

Thus, the use of visual cues - learned schemata - in shopping behaviour would appear to be integral to not only identifying products in-store - whether of the market positioning required or the brand sought - but also potentially integral to other schemata used by customers to be able to shop.

In the next chapter certain aspects of decision making at the point of purchase will be considered. The research presented provides evidence for the learned aspect of shopping behaviour, developed in Chapter 5.

CHAPTER 7 - CHOOSING PRODUCTS

INTRODUCTION

In this chapter research will be presented that further investigates the hypotheses developed in Chapter 5. In this case certain aspects of the procedures that customers use to select products in stores will be investigated to evaluate if learned behaviour is involved. This research is particularly directed towards Hypothesis 1. This is in terms of the evaluating if routines have been learned, that simplify decision-making and thereby address the problem of coping with the complexity of the shopping environment.

A very obvious limitation to expected utilities theory is that the number of products that a consumer will or can consider in a decision is in most cases limited. Classically, the search for information is divided into the 'internal' and 'external search' - according to whether the information sought is already available to the individual (internal) or whether it has to be obtained (external). Furthermore, the external search can be "limited" or "extended", dependant on primarily the effort or cost of the search, in relation to the benefits involved in extending the search. The latter, is usually thought to be related to the involvement that the consumer has with the product field (for a review, refer: Loudon and Della Bitta 1993). There are many studies of heuristics that consumers use in a limited external search, in order to optimise the potential solution, within the constraints of a limited search (Bettman *et al.* 1991). Though, Beatty and Smith (1987) point out that the research has mainly lacked a strong theoretical base and 'most of it, in fact, has been of the single-measure, single-product variety, which limits the generalisability of most findings reported in the search literature.'

In addition, a number of different mental processes have been subsumed under the concept of heuristics. These include tactics used in low awareness situations or where there is a lack of knowledge, or tactics for maximising the accuracy of a decision (Mandrik 1996). Furse *et al.* (1984) distinguish between 'systematic processing', where the consumer invokes a schema to

comprehend and critically evaluate information and a heuristic where decisions are based on a simplifying of the information. This research considers the latter, the use of schemata to minimise effort, via simplifying routines or "short cuts". The discussion in Chapter 5, would suggest that for most shoppers, there is an absolute need to be able to use some sort of simplifying heuristic, to reduce the thousands of stimuli shoppers are presented within a store to a "manageable size", that is, one that can be accommodated by the human attention span. Following Kuusela at al (1998), this research focuses on the pre-choice decision process, how a range of products is "winnowed down" to a more manageable set, amongst which the final decision can be made.

As might be expected in a relatively new field of study such as shopping behaviour, academic research on how products are selected for the choice process is still to be developed. There is a fairly wide range of studies of heuristics used in price comparisons, though these fall outside the scope of this enquiry. There are a number of studies of car or durable purchasing but few of more conventional shopping activity (Furse *et al.* 1984). As discussed earlier, Iyer (1989) suggests that knowledge of store layout is a heuristic for locating product fields. Also mentioned earlier, De Chernatony (1991) discusses the use of brand names in the context of packaging cues as a heuristic used at the point of purchase. Apart from these areas, the shopping behaviour research is apparently bereft of research into simplifying routines/heuristics used to cope with the complexities of the in-store environment. Therefore, insights from other areas have been explored in order to provide theories that might be appropriate to this area.

Possible Screening Approaches

As discussed at length in Chapter 2, the classical economists' model of expected utilities has severe limitations in providing a complete explanation of behaviour this field. A priori, it would seem unreasonable not to assume that some weighing up of the benefits against price or other penalty, e.g. physical effort, etc. occurs (Stern 1962). Though this is likely to be in a less formal and simpler format than suggested by the classical theorists (Miller 1993). Simon (1978) suggests that decision-makers frequently carry out sub-optimal decision making

processes, using a process called "satisficing". This approach suggests that optimisation routines are only carried out to the degree required by the particular decision and that the degree or level of search is related to the perceived risk. As most shopping decisions are relatively low risk, the customer would therefore generally adopt a sub-optimal solution when calculating the relative benefits of competing products. To distinguish this simplified, sub-optimal, approach from the formal classical or "Baysian" approach, the term "trade-off" will be used.

Categorical Approach

Shackle (1979) argued that rather than computing the probability of alternative outcomes and the degree of utility of those outcomes, a decision-maker will decide for each alternative presented to him/her, whether the outcome will be (simply) acceptable or unacceptable. In terms of shopping behaviour, this can be translated into the concept that customers could use a simple bi-polar categorisation of products. Products would be assigned to two mutually exclusive categories – 'acceptable' or 'non-acceptable' - in terms of a criterion or set of criteria.

Decision Trees

A well-known approach, in the field of management decision-making theory, is that of Decision Trees. This involves breaking down a decision into a series of simpler sub-problems. The final decision is contingent on the outcomes of the sub-problems (a review of this approach is given in Cooke and Slack 1991).

THE HYPOTHESIS

Hypothesis 5

There are at least three approaches to decision-making at the point of sale, in terms of the processing or marshalling of stimuli. These are:

Trade-off

Categorical

Decision Trees

EVIDENCE FOR THE HYPOTHESIS

Initial exploratory research used depth interviews to investigate the purchase of shower curtains. This product field was selected as one which would require at least a certain degree of considered decision-making to take place, though not particularly complex or extensive - that it represented a fairly "everyday" decision. Twenty respondents, all female housewives, who had previously purchased the product field in the last year, were first asked to recall their last purchase. Next, they were shown a selection of 20 products and asked to carry out the process of selection that they would use, if they needed to purchase a new shower curtain.

Findings

The research showed definite evidence for all the three approaches, suggested in hypothesis 5.

Decision Trees: The overall decision was broken down into two stages. The subjects commenced the decision-making process with an initial, very rapid, sorting of the products. In this process, they rejected the very great majority of products. This initial sort was followed by a more considered evaluation of the products remaining, after the preliminary sorting process. Thus, the decision making process was divided into quite distinct phases, in which the outcome of the subsequent stage was dependant upon the first.

Categorical: This initial sort was against very simple criteria:

The colour (to be more exact the "colour way" or dominant colour).

How "busy" or bold the pattern.

Whether it had "tie backs" or not.

"Weight", i.e. thickness/strength.

The respondents formulated definite, well-defined, requirements on each of these criteria. Each curtain either met these requirements or did not. There was no question, in the **initial sort phase,** of any approximations. The sort was strictly categorical and if necessary arbitrary.

Trade-off: In the second stage, the products remaining after the initial sort were considered in more detail. In this case the **relative** benefits of the competing products were weighed up in a considered manner. A rough approximation to the classical comparison of "expected utilities" was taking place. However, in this product field at least, the process was by no means extensive nor exhaustive. The respondents were aware that their evaluation was relatively superficial. They justified this on the grounds the product field was not crucially important to them. The products they chose were rarely the ideal, they were simply searching for a product that was adequate for the purpose intended. In other words, they were carrying out "satisficing behaviour".

Thus, the results of this exploratory research suggest that in this product field:

1) Customers used a pluralistic approach to marshal or organise stimuli prior to a choice being made.

2) It also provided evidence for the existence of the three approaches advanced earlier - Decision Trees, Categorical and Trade-off.

LEARNED DECISION-MAKING APPROACHES

Hypothesis 1 states that:

> It is postulated that in order to cope with the complexity of the shopping environment, given the limitations of the attention span, people who shop regularly have learned to shop and therefore by using autonomic behaviour, in the form of schemata, overcome the limitations of the attention span.

The use of learned pre-choice heuristics to simplify the decision-making process in-store, would be in line with this hypothesis. Of the three approaches to decision-making advanced earlier, two methods (Categorical and Decision Trees), represent potentially more efficient methods of utilising attention span, available for that decision. Thus, it could be suggested that their existence, as learned behaviour, represents a subset of the behaviour proposed in hypothesis 1. Following the argument advanced in Chapter 6, a test that substantiated their existence as learned behaviour, would act in turn as a substantiation of hypothesis 1. To this end gender differences in the use of these techniques were evaluated, for the reasons outlined below.

Learned behaviour

Cognitive psychologists classify knowledge into 'declarative' and 'procedural'. Acquiring the ability to make different types of decisions would fall under the category of 'procedural' knowledge. A major difference between the two categories of knowledge is that 'procedural' knowledge can be improved upon (Best 1990). The more practice, the more likely that the performance would become automatic. Therefore, it would require less attention or mental processing capacity. It is suggested that an individual - whose lifestyle had encouraged the practice of, say, categorical decision-making - would be more adept at using that technique. In turn, this would facilitate and thereby encourage its greater use.

A number of authors have shown that many gender differences are learned, a result of cultural socialisation (Bem 1981, Schmitt *et al.* 1988). Part of this could include learning the facility

to use different decision-making techniques. Women, it is commonly claimed, live more complex lives than men do. In addition, they still carry out most shopping. Therefore, if these routines are learned, then it would be predicted that they would have a greater prevalence amongst women than amongst men. This leads to the following hypothesis:

Hypothesis 6

> Women have a propensity to use more efficient methods of organising stimuli or cues in the decision-making processes e.g. Categorical and/or Decision Trees, than men.

Following the earlier discussion, as this hypothesis is again a derivation of the more general hypothesis 1, substantiation of this new hypothesis will again act as substantiation of hypothesis 1.

RESEARCH INTO CULTURAL DIFFERENCES

Methodology

It was necessary to identify a product field, which is commonly purchased but would require a certain degree of consideration - i.e. not a habitual or impulse purchase. In other words, respondents would have to make some form of relatively considered purchase and have to weigh up the benefits of alternative products. For the sake of continuity and synergy, it would have been desirable to use crisps again. Unfortunately, this product field falls far short of these criteria, being often a habitual or impulsive purchase. Therefore, instead, compact disc players was chosen as a product field more aptly fulfilling the requirements. In addition, it was believed to be a relatively "gender free" category, in terms of usage and purchasing.

The research method followed the same design as that discussed in the previous chapter, in that the format was “after only”. The variation in approach was that the ‘test’ sample was comprised of females and the ‘control’ of males. From hypothesis 6, it was predicted that

simplifying heuristics e.g. the categorical and decision trees approaches would be more prevalent amongst the female sample than the male.

Test format

As test stimuli, the respondents were shown four statements, each representing a different decision-making approach. They were asked to rank the statements in terms of their likelihood of using each approach in the choice of a CD player. The approaches encapsulated in the statements were:

Statement 1 - Decision Trees.

Statement 2 - Decision Trees incorporating a Categorical step.

Statement 3 - Satisficing.

Statement 4 - Trade-off.

A draft questionnaire was pilot tested with 20 students. After completing the questionnaire, depth interviews were carried out to probe 1) their understanding of the questions, 2) whether the statements corresponded to real and discrete decision-making approaches and 3) whether the questions adequately described the decision-making approach - that is, the Universe of Content. As a result, small modifications were made to the questionnaire. This step was also necessary to ensure the validity of the research instrument. As single scales were used and not "summated rating scales", the use of Cronbach's alpha to test for reliability was not appropriate.

The final questionnaire was administered by the author to a convenience sample of 276 students at De Montfort University Business School.

RESULTS

Presentation of the Results

Each statement could be chosen as the respondent's first, second, third or fourth choice. To aid presentation of the data, first and second preferences have been combined and called "favourable", whilst third and fourth choices have been also combined and called "unfavourable". The results for statements one and two have also been combined, to consolidate the "more efficient" approaches.[1]

Table 7.3 - Routes selected by gender

DECISION TREES CATEGORICAL APPROACH			
DECISION-MAKING ROUTE LIKELY/UNLIKELY TO CHOOSE			
ANALYSED BY GENDER			
	TOTAL	**FEMALE**	**MALE**
BASE: All Answering	222	106	116
	%	%	%
Likely to choose	56%	70%	44%
Unlikely to choose	44%	30%	56%

(Pearson's Chi-Square value = 03887, with 1 df - P=0.01%)

[1] The questionnaires were processed by Amanda Broderick who also carried out the chi-squared testing.

Table 7.3 above, shows a marked preference for the more efficient approaches to decision-making - Decision Tree and Categorical - by females, in all, 70% of females choose these routes as their first or second preference - "likely to choose" in the table. This is in line with the hypothesis 6.

Table 7.4 – Complete reversal of gender bias

TRADE OFF			
DECISION-MAKING ROUTE LIKELY/UNLIKELY TO CHOOSE			
ANALYSED BY GENDER			
	TOTAL	**FEMALE**	**MALE**
BASE: All Answering	242	116	126
	%	%	%
Likely to choose	64%	58%	69%
Unlikely to choose	36%	42%	31%

(Pearson's Chi-Square value = 3.327, with 1 df, P = 0.07%)

There is a virtually complete reversal of the gender bias in decision-making when "Trade-off" is considered as shown in Table 7.4. Males prefer this route by a ratio of nearly 70:30 this finding is again in line with hypothesis 6.

Table 7.5 – Route representing males or females

SATISFICING			
DECISION-MAKING ROUTE LIKELY/UNLIKELY TO CHOOSE			
ANALYSED BY GENDER			
	TOTAL	**FEMALE**	**MALE**
BASE: All Answering	242	119	123
	%	%	%
Likely to choose	20%	21%	20%
Unlikely to choose	80%	79%	81%

(Not statistically significant)

The route representing "satisficing" was not particularly popular with either males or females as shown in Table 7.5. Only around a fifth of either group chose this as their first or second choice route. As agreeing with this statement was tantamount to admitting to non-rational behaviour it may be that respondents were reluctant to admit to it (Oppenheim 1966, p161-162).

SUMMARY

The research appears to add weight to the theory that following the selective perception of external stimuli, a process of organisation or marshalling of them takes place prior to the final choice, i.e. their input into the final or classical decision making process. There appear to be

at least three techniques used - Trade-off, Decision Trees and Categorical approaches. All of these approaches were found to be used in the empirical studies carried out.

It was also found that two of the approaches used - Decision Trees and Categorical - were more likely to be used by women. As women have generally more experience of shopping, it presumed that as a consequence, they have a greater opportunity to acquire, via learning, these techniques. As learned behaviour, these approaches would fall into the category of schemata or scripts. As their usage appears to be to reduce processing effort, this finding is very much in line with hypothesis 1.

The research does not directly address hypothesis 2, which is concerned with the choice of cues to stimulate schemata/scripts in terms of their meaning or relevance. However, the results are certainly compatible with this hypothesis. The criteria used in screening products in a categorical sorting process are obviously based on their relevance to the shopper. In addition, as discussed at the end of the last chapter, pack schemata imparting meaning or relevance to the products being scanned, probably play a key role in determining if the product is to be rejected or accepted in the initial "categorical" sort.

DISCUSSION

At the initial level the research suggests that pre-decision sorting routines are a factor in shopping behaviour. The concept has implications in two areas. The first being in terms of practical application in terms of merchandising and the second is the indications provided for further development of shopping behaviour theory.

Practical Applications

In popular product fields, retailers have been providing an ever-wider range of products to satisfy consumer demand for variety. As Bullets *et al.* (1996) comment retailers are 'squeezed between the ever increasing push of manufacturers' product offerings and the shopper's evermore compelling search for variety'. The retailer is therefore caught between

the need for an extended range and customers who are increasingly demanding and time constrained. The retailer has to reconcile these apparently irreconcilable needs.

The concept that products need to be pre-sorted for customers is being increasingly recognised. That is, the two-step decision process is being reproduced in displays. For example, it is reported that Birds Eye is adopting a policy of re-merchandising product groups, 'based on the way consumers shop, which follows the meal pattern' (Hardcastle 1998). More directly related to this thesis, is that displays based on the theory developed in this chapter have been built in stores. In this work the criteria used by shoppers to carry out the first step - the categorical sort - were identified by research. Products were then grouped according to where they featured on the dimensions used in the sorting process (Phillips and Cox 1998). The company who carried out the re-merchandising reported to the author that not only did sales increase but also customer satisfaction in shopping that fixture.

The strategy of reproducing the two-stage sort and other methods of adapting stores to the customers' cognitive psychology, is an alternative to simply reducing the range. Retailers have recognised that the current range is often too great for customers to cope with. It has been found that simply reducing the number of different items stocked can actually increase sales. (Purpura 1998, Peters 1997). The implication is that a reduced range is more easily assimilated and therefore choice is made easier. This finding is very much in line with the hypotheses developed earlier. Though it may be more productive to consider simplifying the display in terms of accommodating to the customers' psychology - in terms of pre-sorting of products - rather than reducing the actual variety on offer.

Further Theoretical Implications

The heuristic identified in this chapter appears to be a schemata that involves a subconscious scanning of a wide range of merchandise, to identify those products of interest to the customer. This is followed by a conscious weighing up of those products so identified. In line with the discussion in Chapter 5, this would seem to be a highly efficient usage of the limited cognitive capacity of customers. This concept of learned **subconscious** screening

techniques, followed by **conscious** evaluation of the products identified by this process, may have wider implications for understanding shopping behaviour than just screening displays. Kendall and Fenwick (1997) and Wells and LoSciuto (1966) comment on the rapid speed with which customers made their choice amongst brands. For this to be achievable, it seems possible that other forms of pre-decision scanning are at work over and above those outlined in this chapter. Speculatively, it could be suggested that much shopping behaviour could be seen as involving a process of subconscious scanning techniques, based on learned behaviour - schemata, followed by conscious evaluation of the products resulting from that scanning.

Thus shopping can be seen, at least in part, as a process of moving in and out of subconscious scanning for relevant products and conscious evaluation of those products. There is an analogy in our behaviour when driving. An experienced driver for the most part drives on "autopilot". Most drivers are able to navigate and control a car, whilst listening to the radio, talking etc. They are scanning their environment - e.g. the road ahead - for stimuli of interest or relevance - for example, the behaviour of other drivers, traffic signs etc. Primarily they react to these by use of subconscious schemata. Thus we do not consciously have to remember to change down, break, engage neutral etc, when responding to a stop sign, the environmental scan triggers the requisite schemata. We only engage our conscious when faced with a non-routine task, for example if we are seeking a sign indicating an exit to a motorway, need to find a petrol station etc. Thus motoring appears to be a process of subconscious environmental scanning followed by conscious evaluation. There seems no reason why the same process should not be at work in the case of shopping, that of subconscious scanning followed by conscious-decision making. This approach will be developed further in the final chapter.

CHAPTER 8 - THE IMPACT OF DISPLAYS

INTRODUCTION

Whilst the hypotheses developed in Chapter 5 deal with psychological states that are not directly observable, it seems reasonable to assume that they would have a discernible effect when customers approached the problems of dealing with displays. Even a modest display in a modern store can contain many dozens if not hundreds of different products. Thus it is a manifestation of the issue raised in hypothesis 1, that customers are presented with a complex in-store environment that they are required to cope with - despite the distinct limitations of the attention span. Choosing products out of the usually wide range on the display for further consideration, is also a reflection of the necessity for the selective processing that is integral to hypothesis 2. Thus, studying how customers react to displays in-store is a highly pertinent to the evaluation of these hypotheses.

OBSERVATIONAL RESEARCH

Both the research steps presented in this chapter involve observational research, via video cameras. Central to the hypotheses outlined in Chapter 5, is the use of subconscious processing routines by customers in stores. To investigate this, a research tool is required that can capture subconscious and indeed partly unconscious behaviour. The behaviour may be fleeting and inconsequential to the customer (Rydholm 1998). Thus, it may well not be recalled in a conventional questionnaire. As shown by Newman (1997), surveys are often poor indicators of shopping behaviour. He draws on his study with Lockman (Newman and Lockman 1975) that showed that there was little or no correlation between respondents' recall in a survey of their in-store behaviour and their observed behaviour in that store.

This is not an uncommon problem in shopping research. As Rust (1993) states 'when the purchasing process involves little thinking, is more impulsive than planned, when shoppers are in small groups, attending to each other as much as to the shopping...it is unlikely that verbal interviewing would get an accurate or balanced picture'. Therefore, it is not uncommon to find observational techniques being used in shopping behaviour research. In the commercial in-store research increasing use is being made of video cameras to monitor in-store behaviour (Smith 1997, Litherland 1995). In the academic area, human observation appears to have been the norm (see for example: Rust 1993, Kendall and Fenwick 1997, Wells and Lo Sciuto 1966). Usage of cameras in academic shopping behaviour research appears to have been limited (Thornton *et al.* 1989). There seems no reason to suppose cameras to be inferior to human observation. In fact they have distinct advantages in terms of the quantity of data that can be collected and the opportunity to re-analyse the tapes if required.

THE FIRST OBSERVATIONAL STUDY

Of the two studies presented in this chapter, one focused on observing quite simple behaviour of customers in terms of the time they spent in observing different parts of a display. The other involved a more complex test design. As the simpler of the two, the former will be presented first.

RESEARCH METHOD

A company wishing to refine its observational research techniques arranged for the author to install four video cameras in a pharmacy. The cameras covered behaviour of customers in the aisle facing a sixteen-foot display of toiletries. The cameras recorded the behaviour of customers in the aisles and in particular those who noted the display. Recording took place for a week in two phases, from 29 October to 4 November and 11 to 18 November 1998. In each phase a different display was researched. Though in all other respects the research was identical.

The new research technique, which was being developed, involved customers' behaviour being continuously monitored. In current commercial practice, the video data capture uses a series of freeze frames, the cameras recording behaviour at set time intervals. If the hypotheses advanced in this thesis are correct and subconscious processing is a significant factor in shopping behaviour, then important behaviour may be somewhat rapid, if so might be missed by the existing methods of data capture. In the new approach the research method would capture this behaviour.

Data Analysed

The display was composed of six modules or sections - each module being four feet wide, each module contained six shelves. Each shelf within a section displayed a different range of products. Thus the display comprised twenty-four (6 x 4) discrete 'areas'.

Firstly, any noting of the display by a passing customer was recorded, however fleeting. The 'area(s)' that each customer noted was also recorded, plus the time that they started noting that area and the time they finished - subtraction obviously gives the time noting that 'area'. This data was derived from the electronic timers in the recording equipment and was data was recorded to the nearest second. Thus a high degree of accuracy is assumed.

Sampling

As the number of customers in the store during a week is in the region of a thousand, it was necessary to sample to create a database of manageable size. The sampling procedure was for each day, to process the first eleven customers noting the display, who were seen in the aisle after 9 am, 12 noon and 3 pm. This allowed for a spread of customer by day of week (the store was open 6 days) and time of day. This resulted in a sample of 216 customers. As the research method was experimental there were a number of unprocessable records - mainly incomplete records. In the first stage there were 16 unprocessable records -

producing a useable sample of 200 - and in the second 18 - the useable sample being therefore 198.

Results

The 200 customers who noted the display looked or glanced at 543 'areas' in total, an average of 2.7 per customer. The key analysis for this thesis was the time spent looking at each area. The table below shows the time customers spent looking at an 'area'.

Table 8 – Time customers spent looking at an area

Time customers spent looking at an area	
Base: Total areas looked at 'areas'	703
	%
Time spent looking at 'areas'	
2 secs or less	19
3 to 5	19
6 to 8	13
9 to 11	10
12 to 14	7
15 to 17	4
18 to 20	5
21 secs or more	23

Table 8 shows that 19% of 'areas' were looked at for two seconds or less. It seems probable that little information could be adsorbed in this time, other than recognising the product field being displayed in that area and deciding whether it was or was not relevant.

In addition, if hypotheses one and two are correct, then at least experienced shoppers would use learned subconscious behaviour to scan for products of interest. Therefore, the tapes in the second test were analysed differently, to distinguish between scanning

behaviour and 'fixations'. It is possible to distinguish from video recordings between 'scanning' behaviour - where the customer is rapidly covering a number of products or 'areas' - from 'fixation' - where they focus on a certain product or 'area'. In particular, by observing whether the head is continuously moving or is static.

This re-analysis showed a high level of 'scanning' behaviour as shown in Table 8.1.

Table 8.1 – Customers spent Scanning

Percentage of time customers spent Scanning or Fixating	
BASE: Time spent looking at fitting - by total customers	**7541 secs**
Time spent:	
Scanning	34.5%
Fixating	65.5%

Table 8.1 shows the relatively large proportion of time that customers spent in front of the display was involved in 'scanning'. As with the previous analysis, this is evidence of very rapid processing of information from the display. In this case information is being processed without the customer actually fixating on any particular area or product. Again the implication is that visual contact is potentially too brief, for more than limited information to be adsorbed. Whilst it is not possible to prove that subconscious processing is occurring or selective clues are being processed, this data certainly suggests that regimes of this type may well be involved. If so, then this behaviour appears to constitute a relatively large part of shopping behaviour and as such represents an important element in the shopping process.

THE USE OF PERIPHERAL VISION

The second research project presented in this chapter, uses a controlled test format to attempt to investigate at least one of the psychological processes involved in shopping. The test involved altering a display in such a way that might provide evidence of the peripheral vision being used in shopping behaviour. As such, this would lend support to hypothesis 1. Obviously, as a precursor to discussing the test and its findings, the role of the peripheral vision needs outlining.

The Operation of the Peripheral Vision

The acuity of the eye varies quite considerably over the visual field, that is, the area of the retina that has been stimulated. The further away from the central focus, foveal vision, acuity decreases. This graduation of acuity has been divided into various sectors. Traditionally the main division has been between the foveal vision and the least acute, the peripheral vision (El Grand 1975). The latter operates on the very edge of the visual field. Whilst a degree of recognition takes place, (Haber and Hershenson 1980), its primary role is as a 'low form resolution (that) serves as the early warning system that triggers eye-movements in order to bring the moving object into the centre of our foveal vision.' (Bela 1978). Thus, peripheral vision is often used in the search process and foveal vision used for accurate confirmation. A particular role identified for the peripheral vision is spatial orientation - recognise where you are in relation to your environment (Sekuler and Blake 1994). This is obviously relevant in navigating around a store. In addition, it seems to have a potential role of identifying products of interest for further consideration.

Thus, it is suggested that a customer walking down an aisle in a supermarket may be, for example, looking forward with the central vision but is able to also carry out a sweep to the left and right via the peripheral vision. Thus customers would be able to carry out a subconscious scan of displays via the peripheral vision even though they are not directly looking at them. This is obviously the sort of sub-conscious process that would be predicted by hypothesis 1. According to Gonzalez and Koters (1985), one of the key roles

of the peripheral vision is to filter out what is or is not relevant to the subject. This direction by meaning is obviously in line with hypothesis 2. The peripheral vision is activated or attracted by a hierarchy of stimuli. Movement is the most important, followed by solid colour, the size of the object and finally its visual "form" - (the visual texture - e.g. shiny, matt etc.). The closer an object, for example a display in store, corresponds to these requirements the greater its propensity to attract the peripheral vision.

THE TRADITIONAL PRINCIPLES OF MERCHANDISING

The principles that would attract the peripheral vision in a display are in fact reflected in a traditional principle of creating impactful merchandising, often called block merchandising. This techniques involves:

- Vertical blocking - Products arranged in such a manner that customers are presented as far as possible with vertical lines in the display, for example, over two or more shelves on a gondola.
- Bold facings - Displays should feature multiple facings of the same product.

(Levy and Barton 1992, Buttle 1984).

It can be shown that these traditional rules of display technique have their foundations, at least in part, in activating the peripheral vision.

Principle 1 - Vertical blocking

- Products arranged in such a manner that customers are presented as far as possible with vertical lines in the display, for example, over two or more shelves on a gondola.

Rationale

The basis for this relationship is suggested to be that movement is the primary stimulus that most attracts peripheral vision. Of course in a store the displays do not themselves move. However, when a customer walks past a display, there is relative movement between the display and the customer and in particular relative to the customer's eyes. If, in that display, strong vertical lines have been created then, as the customer passes these lines, they cut across the field of vision. In other words, they are 'moving' relative to the customer.

Principle 2 - Bold facings

- Displays should feature multiple facings of the same product, preferably over more than one shelf arranged in a square or rectangle.

Rationale

This principle incorporates a number of elements associated with peripheral vision. Massed ranks of products project a strong, uniform stimulus in terms of colour and form. The arrangement of this body into a rectangle or square creates a definite shape in the display. As discussed earlier, solid blocks of colour, form and shape are the key stimuli in attracting attention via peripheral vision.

The preceding discussion leads to the formulation of a hypothesis regarding the noting of displays.

Hypothesis 7

Displays incorporating vertical blocking of products will have a higher propensity to be noted by passing customers than if the same products were horizontally merchandised.

RESEARCH

The testing of this hypothesis in a real world environment involved a field experiment. This constituted constructing an in-store display that incorporated these principles and monitoring the resulting changes in customer impact. The monitoring was conducted both before and after the change in the display.

The format prior to the research

The format that existed before the test was, predominantly, horizontally displayed merchandise. The paintbrush display in the store occupied 11.17 feet of a 40-foot gondola run. The rest of the gondola contained various decorating sundries - tools, rollers, sandpaper etc. On the other side of the aisle was a full run of wood stains, preservatives, varnishes, etc.

The paintbrush sector was divided into two sectors, conventional gloss and emulsion paintbrushes, and speciality brushes. Only the conventional brush sector was involved in the experiment. In the 'before' stage, this conventional brush sector featured 4 brands, occupying around 9 feet of the display area. All brands featured a full range of sizes from 4" to ½". Two of the brands listed occupied a single row each whilst the others occupied two rows per brand. Below this area was a display of promotional stock, mainly multi-pack brushes and rollers as shown in figure 8.2.

ORIGINAL FORMAT

BRAND A
BRAND B
BRAND C
BRAND C
BRAND D
BRAND D
PROMOTIONAL STOCK

Figure 8.2 – Display of promotional stock

The test format

The test involved remerchandising the conventional brush sector, incorporated the principles outlined earlier as the basis for attracting the peripheral vision and thereby enhancing the impact of display. First, the display was "rotated" through 90°. That is, the basic display format was changed from horizontal to vertical to create the basis for the requisite vertical blocking. Following this, the brands were then separated using straight vertical lines. To emphasise these vertical lines, narrow stanchions were added between the featured brands. The promotional stock area however remained unaltered, occupying the identical space on the bottom of the display. The objective of the re-merchandising exercise was the creation of strong vertical blocks of products possessing uniform colour, 'form'. It would be predicted from hypothesis 7, that this would attract a higher propensity to be noted by passing customers.

TESTING THE DISPLAY

The research method used during this test involved videoing customer behaviour in the aisle containing the paintbrush display and interviewing customers exiting the aisle containing the display. The experimental design followed a 'Before and After' format, in which the 'before' phase acted as the control. The 'after' stage attempted to reproduce the same environmental conditions, for example, the same store, the same gondola and aisle, identical research methodology carried out on the same days of the week. The assumption is that changes are the result of the experimental stimulus. As noted in the text, as is often the case, perfect matching of the 'before' and 'after' environmental conditions was not completely possible. In particular, the weather varied between the two phases, though the effect of this appears to be less than the effect of the experimental stimuli.

Categories of behaviour

In the video study different categories of in-store behaviour were recorded. In particular, individuals were found to exhibit four primary types of behaviour as shown in figure 8.3:

CATEGORIES OF BEHAVIOUR

CATEGORY OF BEHAVIOUR	DEFINITION	ANGLE TO MERCHANDISE
Looking Forward	Normally associated with travelling around the store, the customer is looking down the aisle, walkway etc. and away from the merchandise.	90°
Investigating products	The customer is for the most part stationary. He/she is standing in front of the merchandise positively evaluating it.	0°
Scanning	The customer is walking along the aisle/walkway etc. but with the head at an angle which permits the customer to make a continuous scan of the merchandise as it is passed.	Around 20° or variable
Other	Behaviour neither associated with movement nor merchandise - talking to partners, children, staff, reading brochures etc.	Not applicable

Figure 8.3 – Four different types of behaviour

INTERVIEW RESULTS

A total of 107 interviews were achieved in the pre-test study and 100 in the post-test study. These were analysed using conventional market research techniques.

The researcher interviewed customers who had passed the display featuring the brushes. The respondents were initially asked which decorating products they had seen in-store on

that shopping trip. Given the immense range of product fields stocked by a large DIY 'shed', to recall more than a few fields is a somewhat difficult task. Thus, for a product field to force its way through this clutter is one measure of the impact of the display featuring that field. The results are contained in Figure 8.4.

Figure 8.4 – Decorating products seen in-store on a shopping trip

DECORATING PRODUCTS RECALLED IN STORE Question - "Which decorating products do you remember seeing in this store to-day."		
	PRE TEST	**POST TEST**
BASE: All respondents	107	100
PRODUCTS RECALLED:	%	%
Paint	51	59
Wallpaper	23	31
Paintbrushes	19	33
Wood treatments/preservatives	21	23
White spirit/terps	6	12
Masonry paint	4	0
Sandpaper	2	5
Textured interior paint	2	1
Rollers	2	5
Filler	2	2
Wallpaper adhesive	1	8
Nothing/none	22	25

In the pre-test study, prior to re-merchandising, the recall results for the paintbrush display were not particularly high. Only 19% of respondents could recall seeing it, despite the fact that all of them were known to have passed the display. However, in the 'post' stage this figure almost doubled, increasing to 33%. (χ sq. test p=0.004) Thus, certainly at the conscious level, the new display appeared to create considerably more impact on the customers.

The other two items which notably improved in terms of number of 'recalls' were wallpaper and wallpaper adhesives, though proportionally a much lower increase was recorded than for paintbrushes. However, as mentioned earlier, the weather during the pre-test study was exceptionally hot. This would tend to decrease the interest of customers in DIY projects inside the house such as wallpapering. Thus, it is suggested that the level of interest in wallpaper and wallpaper paste was atypically low during the pre-test study but returned to a more normal level during the post-test study. In other words, the increase in this sector was probably the result of an abnormally depressed level of interest at the start of the study period due to a temporary weather effect.

CAMERA RESULTS

Table 8.5 shows the number of males and females in the total number of 'parties'[1], plus the number of children accompanying them. The adjustment made for "parties," whilst technically correct, has a minimal effect on the data. The average number of adults in the "party" was 1.2 at the both the "pre-" and "post-" stages.

[1] Parties: many couples shopping together act in concert, their behaviour is in all respects identical. As only one sale can be made to such "siamese twins" they are treated in this study as a single unit or "party". Thus, customers are referred to as "parties" who consist either of individual shoppers who are acting independently **or** couples who are acting in unison as a single buying unit.

COMPOSITION OF PARTIES

	Total Number of Parties			
		Males	Females	Children
Pre-test	115	75	62	16
Post-test	107	74	51	14

Figure 8.5 – Number of males and females in "pre-" and "post-" stages

Customer behaviour was analysed according to the time they spent engaged in the categories of in-store behaviour outlined earlier:

- Looking forward
- Investigating products
- Scanning
- Other behaviour such as talking, etc.

The number involved in each activity is shown in Table 8.6:

NUMBERS INVOLVED IN EACH ACTIVITY

	PRE-TEST	POST-TEST
BASE: Number of Parties	215	207
	%	%
Displays excluding brushes		
Looking Forward	64	55
Scanning	63	66
Investigating Products	50	48
Other	14	21
Brush display		
Scanning	12	40
Investigating Products	10	20

Figure 8.6 - Customer behaviour spent engaged in-store behaviour

The brush display occupied around 14% of the display space on the two gondolas facing the aisle under investigation. Thus to find, as in the pre-test stage, that 12% of the parties scanned the brush displays and 10% of the parties actively investigated them, suggests that it was performing roughly at par or even slightly below par. However, the display incorporating the block merchandising created a very considerable increase in the noting of the display. 'Scanning' of the paintbrush display increased from 12% to 40%, 'investigating' the products also increased from 10% to 20% (χ sq. test p=3.98E-18).

Thus, the changes in merchandising format produced a significant increase in the proportion of customers noting the display, as had been predicted from hypothesis 7.

There was also an increase in the number of customers (parties) categorised as involved in 'other' activities. This is related to an increase in the reading of brochures, which were more readily available in the post-test stage - in a completely unrelated area of the aisle. However, this increase in no way compares with the scale of increase measured for the scanning and investigating of the brush display. However, even including this variation there was no significant difference between the pre- and post-tests with regard to the other displays in the research (χ square p=0.17).

SUMMARY - PERIPHERAL VISION

The second research step presented in this chapter, suggests that the 'vertical blocking approach' in merchandising creates higher impact in-store than horizontal merchandising. This is in the sense that displays utilising the former are looked or glanced at by more passing customers. This is in line with hypothesis 7. The implication therefore is that the peripheral vision was activated more frequently in the case of the vertical blocking approach. Thus, it seems that the peripheral vision plays a part in customers' scanning of the in-store environment. As such, further evidence is provided for the basic hypotheses - one and two.

DISCUSSION

The results are also in line with the tentative theory developed at the end of the last chapter. This is that customers in stores are involved in a sequence of subconscious scanning followed by conscious evaluation. The function of the peripheral vision as discussed at the beginning of the chapter is just this role. The evidence is that the role of the peripheral vision is active not passive. It was not just an unconscious reaction triggered by the display technique. It is the nature of the peripheral vision to be selective, to identify objects of relevance to the observer. This is reflected in the level of "inspecting products", which rose when the block merchandising approach was used. Inspecting products suggests a degree of interest in the products by the customers involved. The retailer also reported a fourfold increase in sales when the display was converted to block

merchandising. Unfortunately, the retailer declined to supply precise figures for inclusion in this thesis.

This increase in inspection (and purchase) does suggest that the peripheral vision is being actively used in-store, as part of the subconscious scanning for products of interest. The resultant 'inspection' phase would seem to conform to a conscious phase. Thus, the process appears to conform to the schema discussed at the end of the last chapter, of subconscious scanning followed by conscious evaluation.

The research presented in the earlier part of this chapter also supports the concept that subconscious and selective processes are at work in shopping behaviour, and would suggest that they do in fact play a significant and potentially major role in this activity.

CHAPTER 9 - CONCLUSIONS

THE ROLE OF SHOPPING BEHAVIOUR

Shopping appears to play a key role in both society and the economy but historically, as an academic discipline, appears to be underdeveloped. The reasons for this appear to be manifold. Recently there has been a rise in interest in the area, albeit comparatively small. A key factor in this elevation may be significant changes in the marketing arena. The academic discipline seems to be in the throes of self-questioning, in which the nature and validity of theory is in flux. Simultaneously, the practitioners have entered marketing's so called 'mid-life crisis', one element of which is the decreasing efficacy of traditional marketing techniques. Whilst the ills of marketing, whether academic or practitioner, are outside the scope of this thesis, one element is highly pertinent to this enquiry - the trend for consumers to increasingly postpone their decision-making until the point of purchase. This is illustrated by the recent survey by the Point of Purchase Advertising Institute, which found that, that over 70% of product decisions in supermarkets are now made in the store. This shift in consumer behaviour also adds an additional dimension to the debate over the relationship between shopping behaviour research and classical 'consumer behaviour'.

From the literature reviewed in Chapter 1, it seems that these two topics have been treated to date as distinct subjects. No apparent attempt has been made to integrate the two areas. Given that significant differences appear to exist between the two subjects, this is perhaps not surprising. Whilst differences exist in such areas as research methods, conceptual frame of reference etc, in this thesis it is suggested that potentially the key difference is in terms of the scope or remit of the two fields. It is suggested here that shopping behaviour incorporates a considerably wider scope of human behaviour. At present almost any behaviour in-store appears to be within its remit - the bounds of the subject do not appear to have yet been reached. Whilst the scope is considerably wider, in marked contrast, the time-frame appears to be markedly reduced, confined to just activities in-store.

It may well be that it is this difference in scope that leads to the lack of congruity between the two areas. Though whatever the reason, the result is that the substantial body of theory residing in the 'consumer behaviour' area is not necessarily transferable into the shopping domain and in practise little translation between the two areas has in fact taken place. This may be one factor behind the lack of general theories in the area of shopping behaviour.

General Theory

Two theories in the shopping behaviour domain have been identified in the thesis, Atmospherics Theory and Iyer's theory of Scripts. Atmospherics theory has attracted attention of researchers, as such one can assume that it has intuitive appeal. As yet no research has yet substantiated it, that is, in its entirety. It has been suggested in this thesis that the problem may be in operationalising the theory. Iyer's (1989) theory has attracted less interest; in addition the work of Knox and De Chernatory (1990) appears to cast doubt on it. It is suggested in this thesis that Iyer's basic concept - that shoppers use 'scripts' - may be valid. Possibly, the issue is that Iyer focused his investigation of scripts, in terms of their supposed manifestation in terms of knowledge of product location in-store. This is perhaps not as clear-cut a manifestation of the usage of scripts as he maintains.

In the thesis, it is suggested that a key factor inhibiting the development of general theories is the model of behaviour used in much research. Most research appears to assume a simple 'Stimulus-Object-Response' model. This theoretical approach appears to suffer from at least two fundamental problems. Firstly, there appears to be many stimuli, many objects and many responses involved in shopping behaviour. Selective perception in particular means that researchers cannot be certain, by any means, of which stimuli are impinging on the shopper - the 'object'. The shopper, as has also been shown, differs in personality, mood and type/mode of shopping; thus there is no one subject that can be reduced down to the 'object' in the model. Finally, research in the area of unplanned purchasing has shown that there is no one activity that can be designated as the shopping act - the supposed 'response'. Even leaving aside such non-purchasing activities as browsing, the purchase itself can be seen as a spectrum of activities dependant, in

particular, on the degree of unplanned purchasing, rather than a single entity. Thus, the Stimulus-Object-Response model appears to be an over simplistic explanation of behaviour in this sector. The second objection to the model is that shopping behaviour appears to be essentially interactive. The shopping environment alters the shopper's perception of that environment and vice versa. This suggests again a more sophisticated model than 'Stimulus-Object-Response' is required.

THEORY DEVELOPMENT

This thesis attempts to tentatively develop a general theory in the field of shopping behaviour. It initially considers the complexity and size of modern retail formats. This is contrasted with psychological research into the highly limited nature of the human attention span. The complexity of modern shops, in terms of the number of stimuli they present to the shopper, appears to far exceed the breadth of the available (conscious) attention span. This suggests that it is impossible to shop consciously in modern large, complex, stores. Whilst psychological research suggests that the attention span can be expanded by various means, the key schema adopted to cope with complex, frequently encountered, environments - such as stores, is memory. In this type of frequently encountered situation, we repeat routines that appear to work for us, which then become 'schemata' - stored subconscious reactions to certain stimuli. This leads to the development of hypothesis 1:

> It is postulated that in order to cope with the complexity of the shopping environment, given the limitations of the attention span, people who shop regularly have learned to shop and therefore by using autonomic behaviour, in the form of schemata, overcome the limitations of the attention span.

Of potentially considerable relevance, schemata act at the subconscious level. This reduces on one hand the need to utilise the highly limited (conscious) attention span. On the other hand it presents a new perspective on shopping behaviour - that much of it is subconscious - a topic that will be explored later.

Obviously, the use of subconscious schemata is not random. The evidence from psychological research is that subconscious activity is directed by the interest or relevance of stimuli being perceived, to the subject. This leads to hypothesis 2.

> It is suggested that recognition of qualities in an object is based on highly cues selective, which are selected as having meaning or relevance to the subject. It is these that condition resultant behaviour.

Thus, a pattern of behaviour is suggested of subconscious scanning directed towards recognising objects e.g. products that have "meaning or relevance" to the shopper. Again a topic that will be returned to later.

Both these so-called central hypotheses concern mental states. As such they are not testable directly by conventional means. Therefore, as is often the case, it was necessary to develop subsidiary hypotheses - which are logically derived from the central hypotheses - which it is possible to test. These concerned 1) the communication of packaging in terms of market positioning via the use of 'cues', 2) the use of a multi-stage, learned decision-making techniques, in selecting products in-store and 3) the use of peripheral vision in attracting attention to displays in-store. All these research steps have been summarised in their own right in the body of the text. To repeat these summaries here would be both repetitious and deflecting from of the central theoretical development of this thesis. The key element in terms of the latter is that all were based on tests of hypotheses that were derivations of the one or both of the central hypotheses. As such, the substantiation of these provided by each research step, acts as substantiation of the central hypotheses. In summary therefore, it would seem that the three research stages presented in this thesis, substantiates the two central hypotheses.

DISCUSSION

It is possible to combine or link the two 'central' hypotheses to create a speculative model of shopping behaviour. This development has already been alluded to in the body of the thesis. At present this linkage is unverified and may even be potentially unverifiable. Therefore the discussion of this model has been confined, or one might even say relegated, to this final chapter. However, whilst unverifiable, it should be noted that it has been presented at a number of commercial conferences and has obtained a degree of acceptance from practitioners. Thus, even if unverified, it appears to have an intuitive appeal.

The central tenet of this further theoretical development is that shopping is (frequently) a two-stage process, at least for experienced shoppers. The first stage involves a macro scanning, of the in-store environment, to identify products of potential interest. If such a product is located, this triggers a second stage where the conscious attention is now focused on this product. The rationale for this switching, from subconscious to conscious attention is that it maximises the coverage of products available in the store, whilst at the same time minimising the drain on the attention span that would be required, if conscious processing were to be used.

This new hypothetical direction comes directly out of the themes developed in the thesis. The first stage essentially utilises subconscious processing which was discussed at length in Chapter 5. Crucially important to this further theoretical development is that the use of subconscious scanning is both efficient and effective. The efficiency dimension is derived from the fact that subconscious activity requires less expenditure of effort. A key factor in the discussion in chapter 5, was that the usage of the subconscious in processing stimuli, minimises the drain on the attention span whilst shopping. Thus, using the subconscious to scan the store, has decided benefits, or is even a necessity, in large modern retail environments.

In terms of effectiveness, the switching between subconscious macro environmental scanning to consciously focusing on specific objects, maximises the coverage of relevant

stimuli in the store. Again as discussed in chapter 5, the attention span operates akin to a searchlight. It can either be 'set' on wide scan or focus down onto detail. Again the size and complexity of the modern store would seem to necessitate a switching from wide to narrow focus. There is a manifest necessity to reduce this daunting size problem down to manageable proportions, that is to select just a few items to consider in detail out of the vast range of options available in a store. As noted in the thesis, the attention is directed by the relevance of the stimuli to the 'subject'. Thus the initial macro - broad scale - sweep of the subconscious scan, isolates products of relevance over a broad range of the store. In contrast, if the shopper were required to consciously process each and every product to decide on the relevance of each, it would simply not be feasible in large-scale, modern, retail environments. Thus all the products in a store, or even in a product field, cannot be consciously evaluated. If processing were conscious, of necessity many must be skipped, ignored, or forgotten – in other words whole swathes of the store will be missed out. The filtering step of the first stage thus substantially increases the scope of products at least considered. Thus, this two-stage process is also a very effective technique for maximising coverage of the store, to identify out of the total range the maximum number of products of relevance on that shopping trip.

Further development

It is also possible to extend certain of the themes in the thesis to shed more light on the mechanisms operating in this two-stage process. For example, what is the source of information or stimuli that customers use as a basis for their decisions as to whether that product is relevant or not? That is, on what basis does a customer decide to engage the conscious attention? The technique for identifying which products are relevant is probably via the packing cues described in the research in chapter 6. In this section the focus was on the existence of highly selective packaging clues that were used to determine the market positioning of a product. However it was mentioned, in passing, that similar cues probably exist for identifying brands and product fields. These cues being highly selective mean few - or even very few - would be required to be processed, in order to establish the brand or product field identity of a product being passed by. Thus the need to process minimal

cues considerably speeds up the process – speculatively it is probably virtually instantaneous. This usage of a few cues again promotes very rapid evaluation of products, this again means that a wide range of products can be processed rapidly across a wide area of the store. In addition, as the cues are minimal and they are assumed to be processed at the subconscious level, the drain on the attention is again minimised.

Thus, packaging cues will alert the subconscious of a shopper that they are passing a particular product/product field. The speculative theoretical development is that if relevant they trigger the engaging of the conscious attention of the passing shopper. The packaging cues can be seen as acting as a series of triggers, switching on or off the conscious attention. This both economises on the attentional effort and also, as it facilities a macro scan, provides a very effective method of evaluating wide areas of the store for relevant products. It is thereby, again, both an efficient and effective method of utilising the shopper's time and effort.

Signpost brands

There was discussion in the thesis of the use of 'signpost' brands in identifying product fields. To reiterate, this is the use of the dominant brand in a product field (usually the brand leader) being used as a signpost or mnemonic for that category. This is a fairly well recognised principle, in modern commercial merchandising practise. The discussion in the previous section might offer an explanation as to why this approach could be effective. It can be postulated that fewer cues will be necessary to identify the most well known brand, in a product field, or at least there will be a greater degree of certainty over this product. Therefore, it can be speculated that this brand will be recognised more readily and surely than other brands in the display as:

- There are fewer cues required, these brands will be recognised more quickly.
- Because there is greater awareness of the cues for these brands, customers will be more certain or sure of their identification.

Thus, the dominant brand should stand out from the display in terms of the speed and certainty of recognition. In addition, being the quintessential product in the category, the dominant brand should also encapsulate that product field for the passing customer and thereby represent a highly effective way of communicating the product field as a whole.

Without this type of heuristic, shopping would not even be feasible. In addtion, it would certainly not be the enjoyable occupation to many, as was shown in chapter 1. Thus whilst this further theoretical development is decidedly speculative, it would seem that techniques or routines of this type must exist for shopping behaviour to exist in the modern world.

The above are only speculations as to the psychological basis of some of the techniques used in modern display design. They are completely speculative and it is not suggested that the psychological basis of these techniques have necessarily been discovcred. They are quoted simply as illustrations of the potential breadth and sophistication of the techniques that may be in operation in this two-stage process of subconscious scanning and subsequent engaging of conscious attention.

This concept of a range of highly sophisticated schemas being available to the customer to aid or direct their shopping casts additional light on the debate in Chapter 1, on the relationship between 'consumer behaviour' and 'shopping behaviour'. Consumer behaviour, as promulgated in the marketing texts, appears to be viewed as a fairly rational focus on the benefits of a product, in relationship to the needs of the consumer. The concept that shoppers are using this whole range of subconscious/unconscious processes adds to the argument advanced in Chapter 1, that shopping behaviour is a broader field of study than 'consumer behaviour'. As well as the issues considered in this chapter, there would seem to be this whole dimension of subconscious/unconscious scanning activity associated with the shopping act, which is at present independent of the traditional remit of research into marketing.

Marketing and Shopping

This dichotomy between the marketing and shopping remits leads to the inevitable question as to the link between the two. In earlier chapters it was suggested that marketing appeared to be associated with the demand aspect of purchasing - the predisposition to purchase - whereas shopping related to the actualisation of that demand in-store. The model suggested earlier in this chapter reflects this divide. The consumer appears, at least to some extent, to change mode when becoming a shopper, using potentially different psychological approaches. This represents a number of challenges for both research and practitioners.

Research Techniques

If much of shopping behaviour is subconscious, then many conventional research techniques will be somewhat inappropriate. In particular, traditional questionnaires or focus groups rely to a great degree on the respondent being consciously aware of their attitudes and behaviour, sufficient at least to be able to recall and verbalise their answers. As Kent (1993) asserts respondents to be able to provide information, it is essential that they are asked only those questions that they are likely to be able to answer with some accuracy. Obviously, direct questioning of respondents about subconscious or unconscious routines is problematic. Any research utilising the question and answer format is liable to be limited in scope. This explains the growth of the usage of cameras in research into shopping behaviour - referred to in Chapter 8 - or projective techniques such as that used in the evaluation of packaging reported in Chapter 5. Thus, a re-orientation or re-evaluation in terms of the choice of techniques appears to be required in research into this field.

In-Store Marketing

The postponement of consumer decision making until in-store, is requiring a similar reorientation in terms of marketing strategy. This is not a rejection of traditional marketing approaches rather extending the principles of marketing into this relatively new area. Williams (1997), the then European Chairman of the Point of Purchase Advertising

Institute, commented that display in-store was traditionally 'the lowest animal in the marketing mix', how to display products in-store was almost inevitably an afterthought in a marketing strategy. It seems necessary to re-evaluate this to accommodate the shift in behaviour towards increasing decision-making in-store. If consumers are postponing their (final) decision-making until they are in the store, then the in-store situation can be critical to the success of a product. Thus to be complete in the modern environment, the remit of a marketing strategies need to be extended to include the in-store environment.

However, the basis for extending marketing strategy to the in-store environment is far from clear. A fundamental principle of marketing is that it is required to respond or satisfy consumer needs or wants. This raises the question as to what are the 'needs' of a shopper in-store, which are required to be addressed as part of an in-store marketing strategy. From the earlier discussion it appears that the study of 'consumer behaviour' - on which classical marketing approaches are based - as currently promulgated is fundamentally different to 'shopping behaviour'. Thus, whilst there may be a need for the extension of the remit of marketing to the in-store situation, the basis for this appears to be far from clear at present.

The current debate over the 'Grey Market' aptly illustrates this point. In this case manufacturers had refused to supply products to retailers, who they deemed unsuitable for distributing their products. This resulted in a European Court Ruling on 16 July 1998 preventing retailers from circumventing this restriction by sourcing goods from outside the EU. The debate over this issue revealed a conflict in models of consumer behaviour operating in the retailing/shopping field. On one side the retailers claimed that consumers were motivated by value considerations. On the other side the manufacturers claimed that the in-store situation was critical to consumer's attitudes to the product (Rushe 1998, Newland *et al.* 1988). The subsequent furore attested to the current uncertainty as to the motivations and needs of the shopper. Both sides in this debate holding completely incompatible stances as to shoppers' needs, with even a number of high profile court actions, unable to bridge the charm.

In-Store Marketing Strategy

There is certainly a lack of clarity in the area of in-store marketing. One aspect that is at least becoming established is the recognition of the need for synergy between the elements of the marketing mix; this includes the point of purchase. 'I believe that pack design and PoS have been forced to come together because communication of a brand or message is becoming more integrated the image is becoming more important' Thomas-Emberson (1998). 'For brand marketers, creating a clear brand identity in-store is as vital as TV advertising.' (Harrington 1997a). Beyond this, the role or function of in-store marketing in the marketing mix appears to be uncertain. Frequently, it is simply equated with creating impact in-store. 'A good example (of in-store marketing) is the Pepsi Blue launch. This bold marketing initiative impacted on every recognisable aspect of the Pepsi brand and the brand's P-O-P used the colour blue to create maximum in-store impact' (Kessler 1997). 'Merchandising should make a design statement that wows the customers, attracts their attention and makes them stop, look and buy' (Schurer 1997). Another role appears to be involving the customer. 'Visual merchandising is key in creating excitement.' (Harrington 1997b). 'A store environment should make a person feel good about himself. The environment should make a person feel good about buying merchandise there' (Laughlin 1998). Thus, there appears to be a degree of confusion as to what is expected to be achieved by the approach, impact, involvement, excitement or what? This may well be based on a confusion as to the model of behaviour on which the activity is based. The 'impact' strategy is possibly based on the 'stimulus-object-response' model. The 'impact' of merchandising, packaging etc increases the stimulus level and results in the response of sales. The other direction of 'involvement' is apparently based on the atmospherics model, that the in-store environment effects the shopper's mood, which results in changed behaviour. As there is a lack of understanding in general, as to the most appropriate models of shopping behaviour, it is not surprising to find that strategies in this area are consequently somewhat vague.

Other models of behaviour are more bizarre, Taylor (1997), Managing Director, of Elizabeth Arden UK commenting on their new display units stated that the trade mark of a

red door 'symbolises the door to a whole new future, a new for you', this was incorporated into their display stands as a "gateway into the selling area". She did not state on what the basis was for this concept of shopper attitudes and behaviour or whether it was actually understood by the customers! A similar somewhat arbitrary model of consumer behaviour is reflected in this report on a new US store design. 'The products displayed on the shelves have 'a natural progression,' he (the store owner) said, which draws the customer up and down the aisle and around the corner to the next aisle. For example, the breakfast aisle has displays of cereal, children's books, toys, toaster pastries, fruit snacks, hot cereal, natural cereal, and powdered breakfast drinks on one side. Facing these products across the aisle are coffee, powdered coffee creamer, coffee filters, dinnerware, small electrical appliances, tea and iced tea mix, chocolate syrups, hot cocoa mix, powdered milk, condensed and evaporated milk, pancake mix, waffle mix and syrups. These are products not typically merchandised together, Lube noted, but they all fit into a common breakfast theme' (Natschke 1989). The theory that the 'natural progression' for adjacencies in-store is based on meal occasions is certainly unique to that store designer.

The theories of shopping behaviour presented in this thesis do shed some light on at least the impact/involvement issue. If the first stage of the shopping process is a subconscious scan of the environment for objects of interest/relevance, then those products that can impinge into that scanning process have a greater chance of selection. Creating 'impact' is a fairly crude exploitation of this process. In contrast, modern thinking about display does suggest caution to this approach. A survey by NAMNEWS (1998) showed that the number of featured promotions permitted by retailers dropped by half in the 12 months to June 1998, as retailers and manufacturers had realised that high levels of in-store activity can cause customer confusion. Similarly, Pine (1995) discusses the problem of customer overload in terms overloading the customer 'with too much information, too many choices', the need he claims is for selective communications focusing on the customer needs. Whilst creating 'impact' may have been effective, when the approach was not common, there is now a danger of saturation. The model suggested in this thesis can be used for a more 'subtle' approach, integrating in-store communication into the sub-

conscious scanning process rather than attempting to force itself into it. This approach will be developed further in the next section.

The concept of what here has been called 'involvement' is more complex. It was discussed earlier in the context of 'atmospherics theory'. At that time, it was suggested that the model had not been opperationalised sufficiently to be tested. However, the persistence of the model in both the academic and professional fields does suggest that at least intuitively it has credibility. The concept that retail environments that 'involve' or 'arouse' will enhance the predisposition to buy seems more than reasonable - even if the mechanics of the relationship are uncertain. This relationship, whilst not directly related to the model or theories developed here is not incompatible with them. Whether a product is low involvement or high involvement, there is still the need to identify it successfully against the background of the highly complex modern stores. The concept of 'involvement/arousal' adds a second dimension to the theory of shopping behaviour. Despite the apparent lack of definitive substantiation, it seems more than probable that it acts in concert with the cognitive scanning process outlined in this thesis, probably by extending the length and breadth of search that the customer will undertake. In addition, it probably enhances the value or image of the products evaluated. As such, the existence of this dimension constitutes a limit to the comprehensibility of the model developed in this thesis.

Thus, while there seems to be a need to extend the remit of marketing to the in-store situation, there appears to be an element of confusion as to the direction of this approach, probably based on a confusion as to the model of customer behaviour used as a basis. It is not claimed here that the theories of shopping behaviour developed in this thesis will resolve this problem. As already stated, it can at best only provide a partial explanation of what appears to be a highly complex and sophisticated activity. However, it is hoped that it can provide a degree of clarification in this new and growing area.

MANAGERIAL APPLICATIONS AND IMPLICATIONS

The relevance of the theories/model outlined in this thesis is obviously in the related areas of in-store marketing and store design. In the case of in-store marketing, there would appear to be an increasing requirement on brand owners to extend their marketing strategy to the point of purchase. The earlier review suggested that this could be hampered by uncertainty over the model of customer behaviour on which this is based. The theories presented in this thesis appear to shed some light in this area. The research presented in this thesis was part sponsored by Proctor and Gamble and the pack design agency, Barker, Oxley and Cook. Both have used the theories developed in their commercial work.

Category Management Implications

Proctor and Gamble use the concept of the subconscious scanning of the in-store environment as part of their Category Management strategy. They recommend to retailer's display configurations that will be most easily processed by customers' subconscious scanning. In this context many of the concepts alluded to in this thesis are used - vertical blocking, signpost brands, adjacencies etc. The objective is to create displays in-store that direct the customer to the products that would interest them on that shopping trip. The basis of the strategy is to replicate the subconscious scanning process as closely as possible in-store. This is both ergonomically efficient and effective. In terms of ergonomic efficiency, it reduces the time and effort that the customer has to spend selecting products for conscious evaluation. As it is known that customers will only spend a set amount of time selecting a product, this reduces the proportion of that time spent in identifying the set of products conscious evaluation, thereby increasing the proportion that they will spend in conscious evaluation.

Any manufacture that has confidence in the consumer appeal of their brands would believe that if consumers seriously - that is consciously - considers them, then an increased proportion will buy. The theory is based on a simple and obvious equation, the more customers who consider/evaluate the brand, the higher the probability of purchasing

occurring. The corollary of this is that customers who don't consider the brand will not buy it, a very self-evident conclusion. Thus, the more time a customer spends 'sorting out' which products to consider, the less time they have to consider the products and thereby the lower the propensity to purchase. This represents a definite incentive to use the model of shopping behaviour from the manufacturers' perspective.

Obviously, there needs to be an incentive from the retailers' perspective for them to adopt the proposed display formats. The main incentive is increased category sales. If a customer can easily locate products relevant to them in-store, then it is more convenient for them to buy in that store rather than visit a competitor. The second incentive reported by Proctor and Gamble is that customer satisfaction increased. Customers found it easier, less effort, to shop the fitting. Therefore, the shopping experience was if not more enjoyable, then at least little unpleasant. In addition, shoppers could locate more products of relevance; therefore the effective range for them increased. Thus adopting display-planning techniques based on the psychology of subconscious scanning not only increased sales but also customer satisfaction. As both the retailers and the manufacturers gain from the exercise, this approach is, very much in line with the current concept of category management. That is developing strategies in which both brand owners and retailers collaboratively use their individual strengths to increase category sales to mutual advantage.

Packaging

The design agency Barker, Oxley and Cook use the concept of visual cues, outlined in Chapter 6, to formalise their approach to packaging development. As discussed in that chapter, the concept of cues influencing image and/or positioning was already existent in pack design. The research reported in this thesis provided a theoretical basis for that approach. This provided added focus to their work, in particular, the approach they used to researching potential designs. Most pack designs are evaluated using focus groups. The company had been concerned that in these respondents were asked to comment on designs. In many respects this elevated consumers to design critics. The approach adopted by the

company is now to focus more on the cues identified by consumers and relate these to the imagery projected by those cues.

This approach does not replace conventional evaluation of pack designs but they claim it allows for a more focused and in-depth explanation of why certain designs are successful and others fail.

Other Applications

The theories developed in this thesis have been, to date, applied in the area of in-store display and packaging. They would appear to have further applications. An obvious development is in store design in a wider context than individual displays. The macro subconscious scanning of the store is wider than just displays. Store architecture, signage, checkouts, the format of display units etc, can either clutter or clarify in terms of this scanning process. A potentially major application, already alluded to is the use of cognitive maps in locating products. Little is known about the use of these to locate product fields. Yet the concept of 'adjacencies' is widely used in planning stores. The example cited earlier of planning adjacencies around meal occasions, is an example of a potentially arbitrary 'cognitive map' being imposed on customers. A limitation of this research is that this aspect has not been covered.

Thus, it would appear that even this modest start to developing general theories of shopping behaviour has important implications for both marketing and retailing. This is probably less related to the brilliance or otherwise of the theory but the current lack of competing theories in the area. The increasing interest in shopping behaviour from both the academic and professional fields has uncovered a need to understand behaviour in this field. Thus, the research presented in this thesis does pay tribute to the old adage of the importance of being in the 'right place at the right time'!

LIMITATIONS

The limitations of this research have already been discussed in the text. They are primarily in terms of research methods and scope.

In terms of research methods two key limitations have been discussed. The first is the 'design' perspective. Highlighted in Chapter 6 were the epistemological differences between the fields of design and marketing. There is considerable coverage of in-store and packaging in the design literature. Most of this is not couched in a format that allows incorporation into marketing theory. However, there can be no doubt that many valuable insights are incorporated in work in this area. As such, in the theoretical sense this represents a limitation to the research. In the practical sense it also represents a limitation. Packs, displays etc are creative entities. Any 'design' based purely on the theory developed in this thesis would be mechanistic and thereby potentially sterile in creative terms. Thus, at the best, the role of the theories in this thesis is to underpin design in the area or add the dimension of psychological explanation to work in this area.

A key limitation of the research area is the inability with present technology to directly relate the mental state of the shopper to different environmental conditions. Shopping, it is maintained, is an essentially interactive process between the perception of the environment and the mental state of the shopper. In the case of shopping research the mental state and the selective perception of the environment have to be both inferred. Most psychological research has been carried out under laboratory conditions. The techniques available to researchers in the laboratory are not available in field research. It is necessary to assume that findings from laboratory research are translatable into the field or in this case store environment. The limitations of this are that 1) developments are dependant on the pace of laboratory research and 2) more seriously, a store is a considerably more complex entity than the psychology laboratory. A key limitation is the inability to hold factors constant in the store situation and that interference from extraneous variables is major hazard of the work.

In the thesis it has been emphasised that shopping is a complex and sophisticated art. The theories developed here only represent one dimension of what certainly should be a multi-dimensional model. In this chapter two additional elements have been identified 1) the involvement/arousal dimension, associated with atmospherics theory and 2) cognitive maps, associated with adjacencies theory in store planning. Thus, even at this initial stage a comprehensive model of shopping behaviour would be comprised of at least three dimensions and probably more.

FURTHER RESEARCH

The need for further research in this area is obvious. Shopping behaviour is a relatively new but increasingly important area - both from the theoretical and practitioners' perspectives. As discussed man times, existing research in the area is sparse. The major need is for the development of general theory. The current theoretical base is both limited and open to debate. Some directions for further theoretical development have been outlined already. These include the 'involvement/arousal' dimension to shopping and the use of cognitive maps. The complexity and sophistication of the area would suggest many other areas exist for theoretical development.

A key aspect in development would appear to be reconciling the related disciplines of 'consumer behaviour' and shopping behaviour. The concept of extending marketing strategy to include the in-store situation would argue that this is somewhat urgent. The gap may be more easily bridged in the future with the increasing use of psychology in 'consumer behaviour'. As many shopping behaviour research studies also utilise psychology, bridging the gap may become increasingly easier in the future.

PAGE

MISSING

IN

ORIGINAL

REFERENCES

Abelson, R.P. (1981) "Psychological status of the Script concept." *American Psychologist,* **36** (7), p715-729.

Abrahams, B. (1997) "It's all in the mind." *Marketing,* **March** 27, p31-34.

Ajzen, I. and Fishbein, M. (1980) *Understanding Attitudes and Predicting Social Behaviour,* Prentice Hall, Englewood Cliffs NY, Englewood Cliffs NY.

Akenhurst, G.A. and Alexander, N. (1995) *Retail Marketing* Cass, London.

Alexander, D. (1970) *Retailing in England During the Industrial Revolution* The Athlone Press,London.

Allport, A. (1993). "Dual task interference and elementary mechanical mechanisms". In: *Attention and Performance* Vol XIV, Meyer, DE and Kornblum, S. eds. MIT Press, Cambridge Mass,London.

Anderson, C.H. (1993) *Retailing Concepts, Strategy and Information,* West, St Paul.

Annual Abstract of Statistics 1997 HMSO.

Antonides, G. and van Raaij, W.F. (1998) *Consumer Behaviour: A European Perspective* Willey,Chischester.

Archer, B. (1995) "The nature of research," *Co-Design,* (01.02.03), p13.

Atkinson, R.C. and Shriffin, R.M. (1971). "The control of short-term memory." *Scientific American,* **225** (2), p82-90.

Atkinson, R.L., Akinson, R.C., Smith, E.E and Bem, D.J. (1990) *Introduction to Psychology* HBJ Publications, Fort Worth, Philadelphia.

Babin, B.J., Darden, W.R. and Griffin, M. (1994) "Work and/or fun: measuring hedonic and utilitarian shopping value." *Journal of Consumer Research,* **20** (March), p664-656.

Babin, L. (1997) "Guidelines for the state-of-the-art scale development." *Journal of Consumer Research,* **21** (2), p98-201.

Baddeley, A. (1993). "Working memory or working attention". In: *Attention: Selection and Awareness & Control.* Baddeley, A. and Weiskrantz, L. eds. Clarendon Press, Oxford p152-170.

Baddeley, A. and Hitch, G. (1976). "Verbal reasoning and working memory." *Quarterly Journal of Experimental Psychology*, **28**(4), p603-621.

Bailey, V. (1997) "Focusing on the consumer." *In-store Marketing*, **November** 1997, p25-29.

Baker, M.J. and Balmer, J.M.T. (1997) "Visual identity: trappings or substance." *European Journal of Marketing*, **31** (5), p366-382.

Bawa, K., and Shoemaker, RW (1989) "Analyzing incremental sales from a direct mail coupon promotion." *Journal of Marketing*, 53 (3), p66-78.

Beatty, S.E. and Smith, S.M. (1987) "External search effort: an investigation across several product categories." *Journal of Consumer Research*, **14** (June), p83-95.

Julesz, B. (1978) "Perceptual limits of texture discrimination and their implications to figure-ground separation." In: *Formal Theories of Visual Perception* Leeuwenberg E.L.T. and Buffart H.F.J. eds. Willey,Chischester p205 - 216

Belk, R.W. (1974) "An exploratory assessment of situational effects in buyer behaviour." *Journal of Marketing Research*, **XI** (May), p153-163.

Belk, R.W. (1975) "Situational variables and consumer behaviour." *Journal of Consumer Research*, **2**, p157-163.

Bellenger, D.N., Robertson, D.H. and Hirschman, E.C. (1978) "Impulse buying varies by product." *Journal of Advertising Research*, 18 (6), p15-18.

Bem, S.L. (1981) "Gender schema theory: A cognitive account of sex typing." *Psychological Review*, vol. 88, p354-364.

Best, J.B. (1990) *Cognitive Psychology 2nd Edition.* West Publishing, Minneapolis

Bettman, J.R., Johnson, E.J. and Payne, J.W. (1991) "Consumer decision making." In: *Handbook of Consumer Behaviour*, Robertson, T.S. and Kassarjian, H.H. eds. p50-84 Prentice Hall, Englewood Cliffs NY.

Bhat, S. and Reddy, S.K. (1998) "Symbolic and functional positioning of brands." *Journal of Consumer Marketing*, **15** (1), p32-43.

Bidlake, S. (1992) "Scents of real purpose" *Marketing*, **October** 15, p21.

Bloch, P. (1995) "Seeking the ideal from product design and consumer response." *Journal of Marketing*, **59**, p16-29.

Bloch, P.H., Ridgway, N.M. and Dawson, S.A. (1994) "The shopping mall as a consumer habitat." *Journal of Retailing,* 70 (1), p23-24.

Bloch, R. and Richins, M.L. (1983). "Shopping without purchase: An investigation into consumer browsing." *Advances in Consumer Research,* **10,** p289-93.

Boedeker, M. (1996) "Recreational shopping the role of basic emotional dimensions of personality." *Proceedings of the 25th EMAC Conference,* p1479-1488.

Boland, L.A. (1988) "Individualist economics without psychology." In: *Psychological Economics,* ed. Earl P.E., Kluwer Academic Publishers, Boston Mass, p163-168

Bond, C. (1996) "Shaping up for the shopper." *Marketing,* October 24, p29-33.

Bradshaw, R.P. and Phillips, H.C. (1993a) "The point of sale: the customers' point of view." *Maximising retail sales in a recession* ESOMAR p125-154.

Bradshaw, R.P. and Phillips, H.C. (1993b)` "Retailing and the point of sale: an interaction theory of consumer behaviour." Proceedings of the ESRC Seminars: *Themes in retailing Theme III: Strategic issues in retailing* UMIST, p 1-20.

Brown, S (1995) *Post Modern Marketing,* Routledge, London; New York.

Buckley, P.R. and Shepherd, R. (1993) "Ergonomic factors: the clarity of food labels." *British Food Journal* 95, 8, p18-21.

Bultez, A., Julander, C.R. and Nisol, P (1996) "Structuring retail assortments according to in-store shopping" proceedings of *25th EMAC conference* p1521-1531.

Buttle, F. (1984) "Merchandising." *European Journal of Marketing,* **16** (6/7), p6-7.

Carmines, E.G. and Zeller, R.A. (1979) *Reliability and Validity Assessment,* Sage, Beverly Hills, London .

Carr, J. (1990) "The Social aspects of shopping please or chore? The consumer perspective." *RSA JOURNAL,* **CXXXV111 (5403),** p189 – 196.

Carrier, L.W. and Pashler, H. (1995). "Attentional limits in memory retrieval." *Journal of Experimental Psychology: Learning, Memory and Cognition,* **21** (5), 1139-1348.

Carson, D., Gilmore, A. and MacLaraen, P. (1998) "Customer or profit focus: an alternative perspective." *Journal of Marketing Practice: Applied Marketing Science,* **4** (1), p39-52.

Chain Store Age (1996) – Anonymous - "Stores are alive with the sounds of music." May 1996, **72** (5), p156.

Chakravanthi, N., Scott, A.N. and Subrata, K.S. (1996) "Promotional elasticities and category characteristics." *Journal of Marketing*, **60** (April), p17-30.

Caswell, J.A. and Padberg, D.I. (1992) "Toward a more comprehensive theory of food labels." *American Journal of Agricultural Economics*, **74** (2), 460-468.

Cheng, P.W. (1985). "Restructuring versus automaticity: alternative accounts of skills acquisition." *Psychological Review*, **92**, p414-423.

Chevalier, M. (1975) "Increase in sales due to in-store display." *Journal of Marketing Research*, **XII** (November), p426-431.

Chisnall, P.M. (1992) *Marketing Research 4th Edition* McGraw Hill, London.

Churchill, G.A. (1995) *Marketing Research; Methodological Foundations 6th Edition*, Dryden, Fort Worth, London.

Churchill, G.A. (1979) "A paradigm for dcvcloping mcasurcs of markcting constructs." *Journal of Marketing Research*, **XV1** (February), p64-73.

Clover, V.T. (1950) "Relative importance of impulse buying in retail stores." *Journal of Marketing*, 15 (July), p66-70.

Cobb, C.J. and Hoyer, W.D. (1986) "Planned versus impulse purchase behaviour." *Journal of Retailing*, **62** (4), p384-409.

Cohen, G. Eysenck M.W. and Le Voi, M. E. (1986). *Memory: A Cognitive Approach.* Open University Press, Milton Keynes.

Cohen, K.M. (1981). "The development of strategies of visual search." In: *Eye Movements: Cognition and Visual Perception.* Ed. Fisher, D.F., Monty, R.A. and Senders, J.W. Lawrence Erlbaum Associates, Hilsdale NJ p271 - 288

Cooke, S. and Slack, N. (1991) *Making Management Decisions, 2ND Edition* Prentice Hall, Englewood Cliffs NY.

Coviello, N.E., Brodie, R.J. and Munro, H.J. (1997) "Understanding contemporary marketing: development of a classification scheme." *Journal of Marketing Management*, **13**, p501-522.

Cox, D.F. (1967) "The sorting rule model of the consumer." in *Risk Taking and Information Handling in Consumer Behaviour*, Harvard University Press, Cambridge Mass, p324-369.

Cox, K.K. (1970) "The effect of shelf space upon sales of branded products" *Journal of Marketing Research,* **VII** February, p55-58.

Crimp, M. (1990) *The Marketing Research Process* Prentice Hall, London, Englewood Cliffs NY.

Curhan, R.C. (1972) "The relationship between shelf space and unit sales in supermarkets." *Journal of Marketing Research,* **IX** (November), p406-412.

Curhan, R.C. (1974) "The effects of merchandising and temporary promotional activities on the sales of fresh fruits and vegetables in supermarkets." *Journal of Marketing Research,* **XI** (August), p286-294.

Davis, G. (1996) "Fashion suffers from uniformity." *Retail Week*, **January** 16 ,p5.

Davis, G. (1997) "Shopping survey slams 'bland' store designs." *Retail Week,* **March** 14, p1.

De Chernatony, L. (1991) "Facilitating consumer choice decisions: the importance of branding cues." *British Food Journal,* **93** (9), p50-56.

De Rouffignac, P. (1990) *Packaging in the Marketing Mix* Butterworth Heinemann, Oxford.

Deighton, J., Henderson, C.M. and Neslin, S.A. (1994) "The effects of advertising on brand switching and repeat purchasing." *Journal of Marketing Research,* **XXXI** (February), p28-43.

Deliza, R. and MacFie, H.J.H. (1996) "The Generation of Sensory Expectations by External Cues and its effect on sensory perception and hedonic ratings - a review." *Journal of Sensory Studies,* **11** (2), pp103-128.

Deutsch, J.A., and Deutsch, D. (1963). "Attention: some theoretical considerations". *Psychological Review,* **70**, p80-90.

Dhar, S.K. and Hack, S.J. (1996) "Price discrimination using in-store merchandising." *Journal of Marketing,* **60** (January), p17-30.

Dillon, W.R., Madden, J.J. and Firtle, N.H. (1990) *Marketing Research in a Marketing Environment,* Irwin, Burr Ridge Illinois, Boston, Sydney.

Donovan, R. and Rositer, J. (1982) "Store atmospherics: an environmental psychology approach." *Journal of Retailing,* **58,** p34-57.

Dreze, X., Hoch, S.J. and Purk, M.E. (1994) "Self management and space elasticity." *Journal of Retailing,* **70** (4), p301-326.

Duncan, J. (1993). "Selection and perception." In: *Attention: Selection, Awareness and Control* Ed. Baddeley, A. and Weiskrantz, L. Clarendon Press,Oxford, p53-71.

Duncan, T. (1997) "Integrating the cultures." *Shop Equipment News,* **March** 1997, p33.

Economist (1996) "Send for the consumer." January 20 - **338** (7949), p 53-54.

Ehrenberg, A.S.C. (1972) *Repeat Buying: Theories and Applications,* p198 North Holland, Amersterdam, London.

Emberson, S.T. (1997) "Copycat killers." *In-store Marketing,* **April,** p14-17.

Engel, J.F. and Blackwell, R.D. (1982) *Consumer Behaviour 4th Edition,* The Dryden Press.

Engel, J.F. and Blackwell, R.D. and Minard, P.W. (1995) *Consumer Behaviour 8th Edition,* The Dryden Press, Fort Worth, London.

Engel, J.F., Blackwell, R.D. and Miniard, P.W. (1994) *Consumer Behaviour, 6th Edition,* Dryden Press, Fort Worth,London.

Evans, M.G. (1991) "The problem of analysing multiplicative composites." *American Psychologist,* **46** (1), p6-15.

Eysenk, M. and Keane, M.T. (1995) *Cognitive psychology: A student's handbook - 3rd Edition* Lawrence Erlbaum Associates, Hilsdale NJ.

Forman, A.M. and Sriram, V. (1991) "The depersonalisation of retailing: its impact on the "lonely" consumer." *Journal of Retailing,* **67** (2), p 226-243.

Foxall, G.R. (1990) *Consumer Psychology in Behavioural Perspective* Routledge, London.

Foxall, G.R. and Goldsmith, R.E. (1994) *Consumer Psychology for Marketing* Routledge, London, New York.

Furse,D.H., Punj, G.N. and Stewart, G.W. (1984) "A typology of individual search strategies among purchasers of new automobiles." *Journal of Consumer Research,* **10** (March), p417-431.

Gagnon, J.P and Osterhause, J.T. (1985) "Effectiveness of floor displays on the sales of retail products." *Journal of Retailing,* **61,** p104-116.

Gardner, M.P.G. (1985) "Mood states and consumer behaviour: a critical review." *Journal of Consumer Research,* **12** December, p281-300.

Gerbing, D.W. and Anderson, J.C. (1988) "An updated paradigm for scale development incorporating undimensionality and its assessment." *Journal of Marketing Research,* **XXV** (May), p186-192.

Gilboa, I. and Schmeidler, D. (1995) "Case based decision theory." *Quarterly Journal of Economics,* **CX,** p606-639.

Gonzalez, E.G. and Kolers, P.A. (1985) "On the interpretation of eye fixations", In: *Eye Movements and Human Information Processing* eds. Groner,R., McConkie, G. and Menz C., North Holland, Amsterdam, Oxford. P239 – 250.

Gosh, A. (1994) *Retail Management Second Edition* Dryden, Fort Worth etc.

Govoni N., Eng R. and Mortan, G. (1986) *Promotional Management,* Prentice Hall, Englewood Cliffs NY.

Greenley, G.E. and Shipley, D.D. (1995a) "An empirical overview of marketing by retailing organisations" In: *Retail Marketing* eds. Akenhurst, GA and Alexander, N. Cass, London. p25-42.

Greenley, G.E. and Shipley, D.D. (1995b) "Problems confronting UK retailing organisations" In: *Retail Marketing* eds. Akenhurst, G.A. and Alexander, N. Cass, London. p13-24.

Groppel, A. (1993) "Store design and experience-orientated consumers in retailing: a comparison between the United States and Germany." *European Advances in Consumer Research,* **1,** p99-109.

Groppel, A. and Bloch, B. (1990) "An investigation of experience-orientated consumers in retailing." *The International Review of Retail, Distribution and Consumer Research,* **1** (1), p101-118.

Gustafson, R. (1997) "Whose brand is it anyway." *In-Store Marketing,* **June** 1997, p24.

Haber, R.N. and Hershenson, M. (1980) *Psychology of Visual Perception: 2nd Edition* Holt, Rinehart and Winston, New York, London.

Haberlandt, K. (1994). *Cognitive Psychology,* Allyn and Bacon, Boston.

Hackett, P.W.M., Foxall, G.R. and Raaij, W.F. (1993) "Consumers in retail environments" In: *Behaviour and Environment: Psychological and Geographical Approaches,* Eds. Garling, T. and Golledge, R.G. p378-399.

Hampson, P.J. (1989). "Aspects of attention and cognitive science special issues cognitive science" *Irish Journal of Psychology,* **10** (2), p261-275.

Harrington, S. (1997a) "Driving the in-store message home." *In-store Marketing,* **April,** p13.

Harrington, S. (1997b) "Retailers need to focus more on visual merchandising." *In-store Marketing,* **August,** p11.

Hartley, B. and Starkey, W.S. (1996) *The Management of Sales and Customer Relations,* Thompson Business Press, London.

Heiman, G.A. 1995 *Research Methods in Psychology*,Houghton Mifflin, Boston.

Helmsley, S. (1997) "Scents and sensibility." *Marketing Week,* **November** 20, p 45 - 52.

Hertal, J. (1998) "Hardballing targeting." *Brandweek,* **May** 4, p44-45.

Holdbrook, M.B. and Hirschman, E.C. (1982) "The experiential aspects of consumption: consumer fantasies, feelings and fun." *Journal of Consumer Research,* **9,** p132-140.

Holdbrook ,M.B. (1995) "The four faces of commodification in the development of marketing knowledge." *Journal of Marketing Management,* **11,** p641-654.

Howard, J.A. (1994). *Buyer Behaviour in Marketing Strategy,* Prentice Hall, Englewood Cliffs NY.

Howard, J.A. and Sheth, J.N. (1967) "A theory of buyer behaviour." in *Marketing Classics, 6th Edition* ed. Enis, B.M. and Cox, K.K., 1988 - Allyn and Bacon Inc., Boston - p105-123.

Hoyer, W.D. (1984) "An examination of consumer decision making for a common repeat purchase product." *Journal of Consumer Research,* **11** (3), p822-829.

Hoyer, W.D. and MacInnis,(1997) *Consumer Behaviour*,Houghton Miffin, Boston.

Hubbard,I. (1995) "The commodification of marketing knowledge: It's not enough to count numbers." *Journal of Marketing Management* **,11,** p671-673.

Hughes, J. (1990) *The Philosophy of Social Research,* Longman, London.

Hunt, S.D. (1993) "Objectivity in marketing theory and research." *Journal of Marketing,* **57,** p76-91.

Hutchinson, P.C. and Marchant, L.J. (1995) "Utility: the key to understanding markets." *Journal of the Market Research Society,* **37** (1), p35-49.

Institute of Packaging, (1963) *Fundamentals of packaging*, Blackie under the authority of the Council of the Institute of Packaging, London.

In Store Marketing (1997 a) "Consumers put under the spotlight in POPAI survey." **April,** p9.

In Store Marketing (1997 b) "New survey will drive P-O-P market." **April,** p 42.

Iyer, E.S. (1989) "Unplanned purchasing: knowledge of shopping environment and time pressure." *Journal of Retailing,* **65** (1), p63-80.

Iyer, E.S. and Ahlawat, S.S. (1987) "Deviations from the shopping plan: when and where do consumers not buy items as planned." *Advances in Consumer Research,* **14,** p241-50.

Jarratt, D.G. (1996) "A shopper taxonomy for retail strategy development." *International Review of Retail, Distribution and Consumer Research,* **6** (2), p196-215.

Jobber, D. and Lancaster, G. (1997) *Selling and Sales Management,* Pitman, London.

Johnson, S. (1990) "The leisure market: consumer choice and consumer activity." *Leisure and Retailing,* Oxford Reports on Retailing, Oxford.

Judd, C.M., Smith,E.R. and Kidder, L.H. (1991) *Research Methods in Social Relations* 6th Edition Harcourt Brace, Fort Worth, London.

Kahn, B.A. and Schmittlain, D.C. (1989) "Shopping trip behaviour: an empirical investigation" *Marketing Letters* **1.1** Kluwer Academic Publishers, Boston Mass, p55-69.

Kahn, B.A. and Schmittlain, D.C. (1992) "The relationship between purchases made on promotion and shopping trip behavior." Journal of Retailing, 68 (3), p294-315.

Kendall, K. and Fenwick, I. (1997) "What do you learn standing in a supermarket aisle?" *Advances in Consumer Research,* (No page numbering in this Edition).

Kenhove, P.V. and Desrumaux, M. (1997) "The relationship between emotional states and approach or avoidance responses in a retail environment." *Journal of Retailing,* 7 (4), p352-368.

Kent, R.A. (1993) *Marketing Research in Action* Routledge, London.

Kessler, C. (1997) "Mix 'n' match" *In-store Marketing,* **June,** p16.

Kinchla, R.A. (1992). "What is attention" *Annual Review of Psychology* ,**43,** p713-742.

Kinnear, T.C. and Taylor, J.R. (1991) *Marketing Research: an Applied Approach, 4th Edition,* McGraw-Hill, New York.

Kinnear, T.C. and Taylor, J.R. (1996) *Marketing Research An Applied Approach: 5th Edition* McGraw Hill, New York, London.

Kleine, R.E. and Kernan, J.B. (1990) "Contextual influences on the meaning ascribed to ordinary consumption objects." *Journal of Consumer Research,* **18** (3), p311-324.

Knolls, A. (1996) "Packaging says it all." *Marketing,* November 15, p31.

Knox, S. and de Chernatory, L. (1990) "A buyer approach to merchandising and product policy." *International Journal of Retail and Distribution Management,* **18** (6), p21-30.

Kollat, D.T and Willet, R.P. (1969) "Is impulse purchasing really a useful concept for marketing decisions." *Journal of Marketing,* **33** (January), p79-83.

Kotler, P. (1973) "Atmospherics as a marketing tool." Journal of Retailing, **49** (Winter), p48-64.

Kotler, P. (1997) *Marketing Management, 9th Edition*,Prentice Hall, Englewood Cliffs NY.

Kotler, P. (1994) "Reconceptualisng marketing." *European Management Journal,* **12** (4), p353-361.

Kotler, P., Armstrong, G., Saunders, J., and Wong V. (1995) *Principles of Marketing,* Prentice Hall, London.

Kuusela, H., Spence, M.T. and Kanto, A.J. (1998) "Expertise effects on prechoice decision processes and final outcomes: a protocol analysis." *European Journal of Marketing,* **32** (5/6), p 559-576.

Lakshmai-Ratan, R.A. and Iyer, E.S. (1988) "Similarity analysis of cognitive scripts." *Academy of marketing Science,* **16** (2), p 36-42.

Laughlin, L. (1998) "Store design visual merchandising crucial to sales." *Daily News Record,* **September 10,** p10.

Le Grand, Y. (1975) "Measurement of the visual stimulus." in *Handbook of Perception V: Seeing* Carterette E.C. and Friendman M.P. eds., AP Academic Press, San Diego, p25-55.

Levy, M. and Barton, A.W. (1992) *Retailing Management* Irwin, Homewood Il.

Litherland, S. (1995) "In the Bag." *Marketing,* **September** 14, p43-44.

Lonish, L.M., Abratham, M. Kalmensopn, S. Livelsberger, J. Lubetkin, B. Richardson, B. and Stevens, M.E. (1995) "How T.V. advertising works: a meta-analysis of 389 real world split cable T.V. advertising experiments." *Journal of Marketing Research* , **XXXII** (May), p125-139.

Lord, K.B and Burnkrant, R.E. (1993) "Attention versus distraction: The interactive effect of program involvement and attentional devices on commercial processing." Journal of Advertising, **22**(1), p47-60.

Loudon, D.L. and Della Bitta, A.J. (1993) *Consumer Behaviour 4th Edition*, McGraw-Hill, London.

Lucas, G.H., Bush, R.P. and Gresham, L.G. (1994) *Retailing*, Houghton Miffin, Boston.

Malhotra, N.K. (1991) *Marketing Research: An Applied Orientation*, Prentice Hall, London.

Mandrik, C.A. (1996) "Consumer heuristics: the trade-off between processing effort and values in brand choice." *Advances in Consumer Research*, **23**, p301-307.

Matlin, M.W. (1994). *Cognition. 3rd* Edition, Harcourt Brace, Fort Worth, London.

May, T. (1997) "Do you feel good? Not while shopping." *Retail Week*, **March** 14 (no page numbering in this section of journal).

McCarthy, R. (1990) "Leisure and retailing: the case study of Meadowhall" *RSA Journal* **February** 1990.

McCleod, C. (1977). "A dual task response modality: support for multi processor models of attention." *Quarterly Journal of Experimental Psychology*, **29**, p651-667

McDaniel, C. and Gates, R. (1996) *Contemporary Market Research: Third Edition* West, Minneapolis, St Paul.

McDaniel, C.D. and Darden, W.R. (1987) *Marketing*, Allyn & Bacon, Boston, London.

McGoldrick, P. (1982) "How planned are unplanned purchases?" *Retail and Distribution Management*, January/February, p27-30.

McGoldrick, P. (1990) *Retail Marketing* McGraw Hill, London.

McGrath, M. A., Sherry, J. F. and Heisley, D. D. (1993) "An ethnographic study of an urban periodic marketplace: lessons from the Midville Farmer's Market." *Journal of Retailing*, **69** (3), p280-319.

McGrath, M. A. (1989) "An ethnography of a gift store: trappings, wrappings, and rapture." *Journal of Retailing*, **65** (4), p421-449.

Murdo, L. (1993) "Shedding the old school tie." *Marketing*, **May 7**, p30.

Miller, H.T. (1993) "Consumer search and retail analysis." *Journal of Retailing*, **69** (2), p160-192.

Miller, G.A. (1956) "The magical number seven, plus or minus two: some limits on our capacity for processing information." Psychological-Review, **63,** p81-97.

Mitchell, A. (1988) "Alan Mitchell" *Marketing Business,* March, p31.

Moray, N. (1993). "Designing for attention" *Attention: Selection, Awareness and Control,* In: Baddeley, A. and Weiskrantz, L. eds. , Clarendon Press, Oxford, p53-71.

Murray, J. and O'Driscoll, A. 1995 "Some redemptive reflections on marketing: the benefits of a process approach." in the *Proceedings of the Marketing Eschatology Retreat,* University of Ulster p110-120.

Nagle, N.J. (1987) *The Strategy and Tactics of Pricing,* Prentice Hall, Englewood Cliffs NY.

NAMNEWS (1998) "Is the UK progressing to promotions." **September,** p8.

Nancarrow, C., Wright L.T. and Brace, I. (1998) "Gaining competitive advantage from packaging and labelling in marketing communications." *British Food Journal,* **100** (1), p49-51.

Natschke, P. (1989) "Gromer arranges its shelves to reflect eating occasions." *Supermarket News,* **39** (4), p14-16.

Newamn, J.W. (1997) "Consumer external search: amount and determinants." In: *Consumer and Industrial Buying Behaviour,* eds. Woodside A.G., Sheth J.G. and Bennett P.D., North-Holland, Amersterdam, p79-94.

Newland, F., O'Sullivan, T. and Baird, R. (1998) "Grey Matter." *Marketing Week,* **February 5,** p31.

Newman, J.W. and Lockeman, B.D. (1975) "Measuring prepurchase information seeking." *Journal of Consumer Research,* **2,** p216-222.

Norman, D. (1981). "Categorisation of action slips." *Psychological Review,* **88,** p1-15.

Norman, D.A. and Schallice, T. (1986). "Attention to action: willed and automatic control of behaviour." In: *Conscious and Self-Regulation.* Davidson R.J., Schwartz G.E., and Shapiro D. eds. Plenum Press, New York, 4. p1-18.

Nunnally, J.C. (1978) *Psychometric Testing: 2nd Edition,* McGraw Hill, New York.

Oakley, J. (1996) "Answers for doubting consumers." *Marketing,* **October** 17, p52.

Ody, P. (1997) "Log on to your customers." *In-store Marketing,* **November,** p32.

Oppenheim, A.N. (1966) *Questionnaire Design and Attitude Measurement",* Heineman Educational Books, London.

Oppenheim, K. (1998) "Time shapes future values." *Retail Week,* **March** 13 p7.

Orgel, D. (1997) "Vendors, retailers said to stress customers." *Supermarket News,* **March** 17, p18.

Owens, D. (1997a) "2001: A retail oddesy." *Retail Week,* June 6 , p10-11.

Owens, D. (1997b) "Listen & learn from your customers." *Retail Week,* June 6, p15-16.

Ozanne, J.L. and Hudson A. (1989) "Exploring diversity in consumer research." In: *Interpretative Consumer Research,* Hirschman E., ed Association for Consumer Research, London, p1-9.

Paine, F. (1990) *Packaging Design and performance* PIRA, Leatherhead Surrey.

Parker, A.J. (1991) "Retail environments: into the 1990's." *Irish Marketing Review,* 5 (2), p61-72.

Park, C.W., Iyer, E.S. and Smith, D.G. (1989) "The Effects of Situational Factors on in-store grocery shopping behaviour: the role of environment and time available for shopping." *Journal of Consumer Research, 15,* p422-433.

Parpura, L. (1998) "Supervalue reporting SKU drop, sales rise." *Supermarket News,* **48** (13), p39.

Pashler, H. (1990). "Do response modality effects support models of divided attention?" *Journal of Experimental Psychology: Human perception and Performance,* **16(4)**, p826-842.

Pearce, M.R and Frenette, E. (1994) "Communicating prices at retail: The treatment of sales taxes in Canada." *Western Business School Working Paper Series,* No. 93-15.

Pesendorfer, W.C. (1995) "Design innovation and fashion cycles." *American Economic Review,* **85,** p771-791.

Peters, J. (1997) "Branded" *TQM Magazine,* 9 (5), p320-321.

Peters, M (1994) "When can attention not be divided?" *Journal of Motor-Behaviour,* **26**(2), p 196-199.

Peters, N. (1997) "Procter & Gamble learns to make more by offering less," *Campaign,* 14 March, p39.

Peterson, R.A. (1978) "A meta analysis of Cronbach's alpha." *Journal of Consumer research,* **21** (September), p381-391.

Phillips, H.C and Bradshaw, R.P. (1993) "How customers actually shop: customer interaction with the point of sale." *Journal of the Market Research Society,* **35** (1), p51-62.

Phillips, H.C. and Cox, J. (1998) "Point of purchase marketing." *Journal of Brand Management,* **5** (3), p186-193.

Phillips, H.C. and Bradshaw, R.P. (1990) "Camera Tracking." in: *Conference Papers 1990. Market Research Society,* 1990 p 87 - 94.

Piercy, N. and Alexander, N. (1995) "The status quo of marketing by retailing organisations." In: *Retail Marketing* Akenhurst. GA and Alexander. N., eds. Cass, London. P43-64

Pine, B.J. (1995) "Customers do not want choice." *International Journal of Retail and Distribution Management,* **23** (6), p2.

Point of Purchase Advertising Institute Europe (1998) *The 1997 POPAI Europe - UK Consumer Buying Habits Study* report published by RMS Watford UK.

Pollay, R.W. (1986) "Customer impulse purchasing behaviour: a re-examination." *Journal of Marketing Research,* **V** (August), p323-5.

Popper, K. (1959) *The Logic of Scientific Discovery,* Hutchinson, London.

Porter, J. (1997) "In the know." *Retail Week,* June 13, p16.

Prasad, V.K. (1975) "Unplanned buying in two retail settings." *Journal of Retailing,* **51** (3), p3-12.

Press, M. (1995) "It's research, Jim..." *Co-Design,* (01.02.03), p34-41.

Retail Week Year Book (1998) p34-35.

Robson, M.J. (1995) "Marketing phenomenology." in the *Proceedings of the Marketing Eschatology Retreat,* University of Ulster p259-266.

Robson, C. (1993) *Real World Research,* Blackwell, Oxford.

Roethlisberger, F.J. and Dickson, W.J. (1939) *Management and the Worker,* Harvard University Press, Cambridge Mass.

Rook, D. W. (1987) "The buying impulse." *Journal of Consumer Research,* **14** Sept, p189 - 199.

Rothschild, ML (1987) "A behavioral view of promotions effects on brand loyalty." *Advances in Consumer Research,* **14,** p 119-120.

Rushe, D. (1998) "Shades of Versace art ASDA." *The Sunday Times,* **July 19,** p3.

Rust, L. (1993) "How to reach children in stores: marketing tactics grounded in observational research." *Journal of Advertising Research,* 33 **November-December,** p67-72.

Rutherford, M. (1988) "Learning and decision-making in economics and psychology: a methodological perspective." In: Earl, P.E. ed. *Psychological Economics,* Kluwer Academic Publisher, Boston Mass p35-54

Rydholm, J. (1998) "I shop, therefore I am unconscious." *Quirk's Marketing Research Review,* **May,** p129-130.

Sallice, T. and Burgess, P. (1993). "Supervisory control of action and thought selection". In: *Attention: Selection, Awareness and Control,* Baddeley, A., and Weiskrantz, L. eds., Clarendon Press, Oxford. P171- 187

Sara, R. (1990) "Packaging as a retail marketing tool." *International Journal of Physical Distribution and Logistics Management",* **20** (b), p29-30.

Schiffman, L.G. and Kanuk, L.L. (1994) *Consumer Behaviour* 5th Edition, Prentice Hall, Englewood Cliffs NY.

Schiffman, L.G., and Kanuk, L.L. (1991). *Consumer Behaviour.* 4th Edition. Prentice Hall International, London.

Schindler, R.M. and Kibarian, T.M. (1996) "Increase consumer sales response through use of 99 - ending prices." *Journal of Retailing,* **72** (2), p187-199.

Schmitt, B.H., Leclerc, F. & Dube-Rioux, L. (1988) "Sex typing and consumer behaviour: a test of gender schema theory." *Journal of Consumer Research,* vol. 15, June, p122-128.

Schneider, W. and Schiffrin, R.M. (1977). "Controlled and automatic human information processing: 1. detection, search and attention." *Psychological Review,* **84,** p1-66.

Schurer, M. (1997) "Merchandise and accessorize." *Supermarket Business,* **52** (10), p 92,93 pp2-93.

Shackle, G.L.S (1979) *Imagination and the Nature of Choice* Edinburgh University Press, Ebinburgh.

Shipman, M. 1988 *The Limitations of Social Research 3rd Edition* Longman, London, p21.

Shrimp, T.A. (1997) *Advertising, Promotion, and Supplemental Aspects of Integrated Marketing Commmunications, 4th Edition,* Dryden Press, Fort Worth, London.

Simeon, H.A. (1978) "Rational decision-making in business organisations," *American Economic Review,* **68,** p1-13.

Smith, A. (1998) "Lookalike packaging leaves shoppers confused." *The Financial Times,* April 16, p9.

Smith, A. (1997) "Shoppers under the microscope." *Financial Times,* **December 5,** p14.

Smith, P.R. (1996) *Marketing Communications,* Kogan Page, London.

Smith, R.A. and Houston, M.J. (1985) "A psychometric assessment of measures of scripts in consumer memory." *Journal of Consumer Research,* **12** September, p214-224.

Spangenburg, E.R. and Crowley, A.E. and Henderson, P.W. (1996) "Improving the store environment: do olfactory cues affect evaluations and behaviour." *Journal of Marketing,* **60** (April), p67-80.

Spector, P.E. (1992) *Summated Scale Construction* Sage, Newbury Park London.

Spies, K., Hesse, F. and Loesch, K. (1997) "Store atmosphere, mood and purchasing behaviour." *International Journal of Research in Marketing,* **14,** p1-17.

Stark, L. and Ellis, S.R. (1981). "Scanpaths revisited: cognitive models direct active looking." In: *Eye Movements: Cognition and Visual Perception.* Fisher, D. F., Monty, R. A., and Senders, J. W. ed., Lawrence Erlbaum Associates, Hilsdale NJ.

Stern, H. (1962) "The significance of impulse purchasing to-day." *Journal of Marketing,* **25** (2), p59-62.

Stewart, W (1994) "Packaging design strategy." PIRA Internaioinal, Leatherhead.

Stewart-Allen, A.L. (1997) "Escapism for sale." *Retail Week,* June 27, p11.

Swinyard, W.R."The effects of mood, involvement, and quality of store experience on shopping intentions." Journal of Consumer Research, 20 (2), p271-280.

Tai, S.H.C. and Fung, A.M.C. (1997) "Application of an environmental psychology model to in-store buying behaviour." *International Review of Retail, Distribution and Consumer Research,* 7 (4), p311-337.

Tauber, E.M. (1972) "Why people shop." *Journal of Marketing,* **36** October, p46-59.

Taylor, S. (1997) quoted in "Elizabethan Age." by Victoria Bailey, *In-store Marketing*, **November** p20.

Thaler, R.H. (1985) "Mental accounting and consumer choice." *Marketing Science*, **Summer 4** (3), p 199 – 241.

Thomas, A. and Garland, R. (1993) "Supermarket shopping lists." *International Journal of Retail and Distribution Management*, **21** (2), p8-13.

Thomas-Emberson, S. (1997) "Brighten up our future." *In-store Marketing*, **December,** p29-34.

Thomas-Emberson, S. (1997) "Marketing in three dimensions." *In-store Marketing*, October, p27-28.

Thomas-Emberson, S. (1998) "Special report packaging." *In-store Marketing*, **March,** p41.

Thornton, S.J., McCullagh, M.J. and Bradshaw, R.P. (1989) "In-store movements and purchasing." in: ESOMAR Seminar on *Adding Value to the Retail Offering*, Edinburgh, ESOMAR, p61-69.

Treisman, A. (1988). "Features and objects: The fourteenth Bartlet memorial lecture." *Quarterly Journal of Experimental Psychology*, **40A**, p201-237.

Treisman, A. (1993). "The perception of features and objects." In: *Attention: Selection, Awareness and Control*. Baddeley, A., and Weiskrantz, L. eds. p5-35.

Tuck, M. (1976) *How do We Choose?* Methuen, London.

Urde, M. (1994) "Brand orientation - A strategy for survival" *Journal of Consumer Marketing*, **11** (3), p18-32.

Van Maanen, J. (1988) *Tales of the Field* University of Chicago Press, Chicago, London.

Wells, W.D. and Lo Sciuto, L.A. (1966) "Direct observation of purchasing behaviour" *Journal of Marketing Research*, **III** (August), p227-233.

Wells, W.D. and Prenskey, D. (1996) *Consumer Behaviour* Wiley, New York, Chicester.

Westwood, R.A. and Black W.C. (1985) "A motivation-based shopper typology." *Journal of Retailing*, **61** (1), p78-103.

Whitehead, N. (1997) "Tapping the child within: an emotional experience." *Retail Week*, 14 March 1997 (No page numbers, as special report).

Wilkinson, J.B., Mason, J.B. and Paksoy, C.H. (1982) "Assessing the impact of short term supermarket strategy variables." *Journal of Market Research* , **19,** p72-86.

Williams, D. (1997) quoted in Silver, RS "POPAI - the marketing man." *Retail Equipment & Design,* **November** 1997, p12-14.

Williams, L.G. (1966). "The effect of target specification on objects fixated during visual search." *Perception and Psychophysics,* **1,** p315-318.

Woodruffe, H. (1996) "Compensatory consumption (or: why do women go shopping when they're fed up and other stories)" *Proceedings of the 25th EMAC conference* p1271-1290.

Woodruffe, H. (1997) "Compensatory consumption: why do women go shopping when they're fed up and other stories", Market Intelligence and Planning, **15** (7), p324-334.

Woodside, A.G and Waddle, G.L. (1975) "Sales effect of in-store advertising." *Journal of Advertising Research,* **June,** p29-34.

Zeithamal, V. and Gilly, M.C. (1987) "Characteristics affecting the acceptance of retailing technologies: a comparison of elderly and non-elderly consumers" *Journal of Retailing,* **63** (Spring), p49-68.

Zikmund, W.G. (1994) *Exploring Marketing Research: 4th Edition,* Dryden, Fort Worth.

APPENDIX

ILLUSTRATIONS USED IN THE RESEARCH


WALKERS
CRISPS
Ready Salted
NEW
LOCKED IN
FRESHNESS


EXTRA THICK & CRUNCHY
BARBECUED BEEF
FLAVOUR
POTATO CHIPS
THE REAL
McCOY'S


ROYSTERS®
BUBBLED
POTATO CHIPS
T-BONE
Steak

2


NEW
FRESHPACK
CRUNCHY
SEABROOK'S
Crinkle Cut Crisps
Sea Salt
CHEESE & ONION
Made
with Pure
SUNFLOWER
OIL


NEW
FRESH PACK
CRUNCHY
SEABROOK'S
Crinkle Cut Crisps
Sea Salt
CHEESE & ONION
Made
with Pure
SUNFLOWER
OIL


MORE-THAN A SNACK
VALUE 30 GRAMS e
CRINKLE CUT
Seabrook
Sea Salt
CHEESE & ONION
Made with pure
SUNFLOWER OIL
high in Polyunsaturates
Low in Saturates
FLAVOUR
POTATO CRISPS

MORE-THAN A SNACK

VALUE 30 GRAMS e

CRINKLE CUT

Seabrook

Sea Salt

CHEESE & ONION

FLAVOUR

POTATO CRISPS

Made with pure SUNFLOWER OIL
High in Polyunsaturates
Low in Saturates

QUESTIONNAIRE
USED OR SCALE DEVELOPMENT

CRISP QUESTIONNAIRE

Resp Numb.....(1)

PACK TESTED

ASDA	☐	(1)
Golden Wonder	☐	(2)
Walkers	☐	(3)
Double Crunch	☐	(4)
Roysters	☐	(5)

(2)

A fun product	☐☐☐☐☐☐☐	An ordinary product	3
Would be very nice	☐☐☐☐☐☐☐	Would not be nice	4
A standard crisp	☐☐☐☐☐☐☐	A snack product	5
Would be oily/greasy	☐☐☐☐☐☐☐	Would be dry	6
Tasty	☐☐☐☐☐☐☐	Not tasty	7
A quality product	☐☐☐☐☐☐☐	A poor product	8
Expensive	☐☐☐☐☐☐☐	Cheap	9
An exciting product	☐☐☐☐☐☐☐	A boring product	10
An indulgent product	☐☐☐☐☐☐☐	An everyday product	11
For children	☐☐☐☐☐☐☐	For adults	12
Good taste	☐☐☐☐☐☐☐	Poor taste	13
Different	☐☐☐☐☐☐☐	Ordinary	14
Different taste	☐☐☐☐☐☐☐	Ordinary taste	15
Strong flavour	☐☐☐☐☐☐☐	Mild flavour	16
For special occasions	☐☐☐☐☐☐☐	An everyday product	17
Very crunchy	☐☐☐☐☐☐☐	Not very crunchy	18
Sharp tasting	☐☐☐☐☐☐☐	Not sharp tasting	19
Very tasty	☐☐☐☐☐☐☐	Not very tasty	20
Pack looks nice	☐☐☐☐☐☐☐	Pack does not look nice	21

Pack looks different	☐ ☐ ☐ ☐ ☐ ☐ ☐	Pack looks ordinary	22
Would be seen eating them	☐ ☐ ☐ ☐ ☐ ☐ ☐	Would not like to be seen eating them	23
Looks interesting	☐ ☐ ☐ ☐ ☐ ☐ ☐	Looks boring	24
Very savoury	☐ ☐ ☐ ☐ ☐ ☐ ☐	Not very savoury	25
A wine bar product	☐ ☐ ☐ ☐ ☐ ☐ ☐	A pub product	26
For a kiddie's lunch box	☐ ☐ ☐ ☐ ☐ ☐ ☐	For adults	27
A classy product	☐ ☐ ☐ ☐ ☐ ☐ ☐	Ordinary	28
For parties	☐ ☐ ☐ ☐ ☐ ☐ ☐	Everyday	29
Pack is different	☐ ☐ ☐ ☐ ☐ ☐ ☐	Pack is ordinary	30
Not much in pack	☐ ☐ ☐ ☐ ☐ ☐ ☐	Plenty in pack	31
For kids	☐ ☐ ☐ ☐ ☐ ☐ ☐	For older people	32
Looks fresh	☐ ☐ ☐ ☐ ☐ ☐ ☐	Does not look fresh	33
Different texture	☐ ☐ ☐ ☐ ☐ ☐ ☐	Ordinary texture	34

SEX Male ☐ (1) 35
Female ☐ (2)

AGE Write in here..... 36

RACE

White	☐	(1) 37
Asian	☐	(2)
Afro/Caribbean	☐	(3)
Other	☐	(4)

FINAL QUESTIONNAIRE

Crisp Questionnaire

Instructions

Mark boxes boldly like this ▬ Do NOT tick, cross or circle
Use only pencil, or blue or black biro, when completing this form
Please do not fold the questionnaire

Sex

Male [ ] Female [ ]

Age

(write in here) .....

Race

White [ ]
Asian [ ]
Afro/Caribbean [ ]
Other [ ]

Respondent Number

0 [ ]	0 [ ]	0 [ ]
1 [ ]	1 [ ]	1 [ ]
2 [ ]	2 [ ]	2 [ ]
3 [ ]	3 [ ]	3 [ ]
4 [ ]	4 [ ]	4 [ ]
5 [ ]	5 [ ]	5 [ ]
6 [ ]	6 [ ]	6 [ ]
7 [ ]	7 [ ]	7 [ ]
8 [ ]	8 [ ]	8 [ ]
9 [ ]	9 [ ]	9 [ ]

Pack Tested

ASDA [ ] Golden Wonder [ ] Walkers [ ] Double Crunch [ ]
Tato [ ] Brannigans [ ] Roysters [ ] McCoy's [ ]

Now please answer the following and mark on a scale of 1 to 7

	1	2	3	4	5	6	7	
A fun product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	An ordinary product
Would be very nice	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Would not be nice
A standard crisp	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	A snack product
Would be oily/greasy	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Would be dry
Tasty	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Not tasty
A quality product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	A poor product
Expensive	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Cheap
Different	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Ordinary
An exciting product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	A boring product
An indulgent product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	An everyday product
For children	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	For adults
Good taste	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Poor taste
Different taste	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Ordinary taste
Strong flavour	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Mild flavour
For special occasions	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	An everyday product
Very crunchy	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Not very crunchy
Sharp tasting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Not sharp tasting
Very tasty	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Not very tasty
Pack looks nice	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Pack does not look nice
Pack looks different	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Pack looks ordinary
Would be seen eating them	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Would not like to be seen eating them
Looks interesting	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Looks boring
Very savoury	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Not very savoury
A wine bar product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	A pub product
For a kiddie's lunch box	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	For adults
A classy product	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Ordinary
For parties	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Everyday
Pack is different	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Pack is ordinary
Not much in pack	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Plenty in pack
For kids	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	For older people
Looks fresh	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Does not look fresh
Different texture	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	[ ]	Ordinary texture

Thank you for completing this questionnaire

TABLES

PAGE NUMBERING AS ORIGINAL

S_USED Sebrook-Trial of Brand by ROTATION Current or Test Pack Set

Count	ROTATION Current	Test	Row Total
S_USED	1.00	2.00	
1.00 Tried	97	67	164 40.1
2.00 Not Tried	112	133	245 59.9
Column Total	209 51.1	200 48.9	409 100.0

Chi-Square	Value	DF	Significance
Pearson	7.09320	1	.00774
Continuity Correction	6.56584	1	.01040
Likelihood Ratio	7.12298	1	.00761
Linear-by-Linear Association	7.07585	1	.00781
Fisher's Exact Test:			
One-Tail			.00513
Two-Tail			.00873

Minimum Expected Frequency - 80.196

Number of Missing Observations: 26

R_USED Roysters-Trial of Brand by ROTATION Current or Test Pack Set

Count	ROTATION Current	Test	Row Total
R_USED	1.00	2.00	
1.00 Tried	131	129	260 61.8
2.00	84	77	161 38.2
Column Total	215 51.1	206 48.9	421 100.0

Chi-Square	Value	DF	Significance
Pearson	.12739	1	.72115
Continuity Correction	.06585	1	.79748
Likelihood Ratio	.12741	1	.72113
Linear-by-Linear Association	.12709	1	.72147
Fisher's Exact Test:			
One-Tail			.39882
Two-Tail			.76375

Minimum Expected Frequency - 78.779

Number of Missing Observations: 14

W_USED Walkers-Trial of Brand by ROTATION Current or Test Pack Set

ROTATION Page 1 of 1

Count	Current 1.00	Test 2.00	Row Total
W_USED			
1.00 Tried	208	200	408 98.6
2.00 Not Tried	3	3	6 1.4
Column Total	211 51.0	203 49.0	414 100.0

Chi-Square	Value	DF	Significance
Pearson	.00227	1	.96196
Continuity Correction	.00000	1	1.00000
Likelihood Ratio	.00227	1	.96197
Linear-by-Linear Association	.00227	1	.96201
Fisher's Exact Test:			
One-Tail			.63902
Two-Tail			1.00000

Minimum Expected Frequency - 2.942
Cells with Expected Frequency < 5 - 2 of 4 (50.0%)

Number of Missing Observations: 21

M_USED McCoys-Trial of Brand by ROTATION Current or Test Pack Set

ROTATION Page 1 of 1

Count	Current 1.00	Test 2.00	Row Total
M_USED			
1.00 Tried	178	177	355 83.3
2.00 Not Tried	37	34	71 16.7
Column Total	215 50.5	211 49.5	426 100.0

Chi-Square	Value	DF	Significance
Pearson	.09203	1	.76162
Continuity Correction	.03005	1	.86238
Likelihood Ratio	.09206	1	.76158
Linear-by-Linear Association	.09181	1	.76189
Fisher's Exact Test:			
One-Tail			.43135
Two-Tail			.79577

Minimum Expected Frequency - 35.167

Number of Missing Observations: 9

SEX Gender by ROTATION Current or Test Pack Set

ROTATION Page 1 of 1

Count	Current 1.00	Test 2.00	Row Total
SEX			
1.00 Male	117	102	219 50.5
2.00 Female	102	113	215 49.5
Column Total	219 50.5	215 49.5	434 100.0

Chi-Square	Value	DF	Significance
Pearson	1.55345	1	.21263
Continuity Correction	1.32334	1	.24999
Likelihood Ratio	1.55437	1	.21249
Linear-by-Linear Association	1.54987	1	.21315
Fisher's Exact Test:			
One-Tail			.12498
Two-Tail			.24924

Minimum Expected Frequency - 106.509

Number of Missing Observations: 1

Chi-Square	Value	DF	Significance
Pearson	20.75337	25	.70628
Likelihood Ratio	25.98754	25	.40826
Linear-by-Linear Association	2.12777	1	.14465

Minimum Expected Frequency - .496
Cells with Expected Frequency < 5 - 40 of 52 (76.9%)

Number of Missing Observations: 8

AGE by ROTATION Current or Test Pack Set

AGE	Count	ROTATION Current 1.00	ROTATION Test 2.00	Row Total
	30.00	1	2	3 .7
	31.00		1	1 .2
	32.00	1		1 .2
	34.00	1		1 .2
	35.00	2		2 .5
	36.00	2	1	3 .7
	38.00	1		1 .2
	39.00		1	1 .2
	40.00	1		1 .2
	53.00		1	1 .2
	69.00	1		1 .2
	99.00	1		1 .2
	Column Total	215 50.4	212 49.6	427 100.0

AGE by ROTATION Current or Test Pack Set

	Count	ROTATION Current 1.00	Test 2.00	Row Total
AGE	2.00	1		1 .2
	10.00		1	1 .2
	18.00	18	15	33 7.7
	19.00	50	63	113 26.5
	20.00	59	53	112 26.2
	21.00	35	31	66 15.5
	22.00	14	16	30 7.0
	23.00	8	10	18 4.2
	24.00	3	6	9 2.1
	25.00	5	2	7 1.6
	26.00	2	2	4 .9
	27.00	4	4	8 1.9
	28.00	1	2	3 .7
	29.00	4	1	5 1.2
	Column Total	215 50.4	212 49.6	427 100.0

(Continued)

TEST FOR SAMPLE MATCHING

COMPARISON OF DEMOGRPHICS AND PRODUCT USAGE BY
SET OF STIMULUS MATERIAL USED

CURRENT BEING SET OF STIMULUS MATERIAL CONTAINING ONLY CURRENT PACKS
TEST BEING STIMULUS MATERIAL CONTAINING REVISED PACKS FOR ROYSTERS AND SEABROOKS

RACE Race by ROTATION Current or Test Pack Set

Count		Current	Test	Row
		1.00	2.00	Total
RACE				
White	1.00	143	142	285
				66.9
Asian	2.00	55	58	113
				26.5
Black	3.00	6	6	12
				2.8
Other	4.00	11	5	16
				3.8
	Column	215	211	.426
	Total	50.5	49.5	100.0

Chi-Square	Value	DF	Significance
Pearson	2.29580	3	.51333
Likelihood Ratio	2.35155	3	.50272
Linear-by-Linear Association	.78121	1	.37677

Minimum Expected Frequency - 5.944

Number of Missing Observations: 9

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_STRONG Seabrook-"Strong flavour"				
Curr	206	4.0291	1.821	.127
Test	202	3.5000	1.383	.097

Mean Difference = .5291

Levene's Test for Equality of Variances: F= 14.919 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.30	406	.001	.160	(.214, .844)
Unequal	3.31	382.23	.001	.160	(.215, .844)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_SEENEA Seabrook-"Would be seen eating them"				
Curr	212	4.2547	2.000	.137
Test	205	3.7268	1.772	.124

Mean Difference = .5279

Levene's Test for Equality of Variances: F= 7.158 P= .008

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.85	415	.005	.185	(.164, .892)
Unequal	2.85	411.88	.005	.185	(.164, .891)

Variable	Number of Cases	Mean	SD	SE of Mean
S_SPECIA Seabrook-"For special occasions"				
Curr	209	5.6029	1.617	.112
Test	199	5.2613	1.583	.112

Mean Difference = .3416

Levene's Test for Equality of Variances: F= .000 P= .993

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.15	406	.032	.159	(.030, .653)
Unequal	2.16	405.68	.032	.158	(.030, .653)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_QUAL Seabrook-"A quality product"				
Curr	213	4.5869	1.601	.110
Test	203	3.7537	1.518	.107

Mean Difference = .8332

Levene's Test for Equality of Variances: F= 1.316 P= .252

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.44	414	.000	.153	(.532, 1.134)
Unequal	5.45	413.99	.000	.153	(.532, 1.134)

Variable	Number of Cases	Mean	SD	SE of Mean
S_ROTATI S-Rotation				
Curr	220	1.0000	.000	.000
Test	215	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_NICE Seabrook-"Would be very nice"				
Curr	212	3.9481	1.804	.124
Test	206	3.5291	1.494	.104

Mean Difference = .4190

Levene's Test for Equality of Variances: F= 8.874 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.58	416	.010	.162	(.100, .738)
Unequal	2.59	405.85	.010	.162	(.101, .737)

Variable	Number of Cases	Mean	SD	SE of Mean
S_PACKDI Seabrook-"Pack looks ditferent"				
Curr	208	4.9904	1.926	.134
Test	205	4.0439	1.911	.133

Mean Difference = .9465

Levene's Test for Equality of Variances: F= .551 P= .458

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.01	411	.000	.189	(.575, 1.318)
Unequal	5.01	410.98	.000	.189	(.575, 1.318)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_GTASTE Seabrook-"Good taste"				
Curr	209	4.3349	1.682	.116
Test	201	3.7313	1.552	.109

Mean Difference = .6036

Levene's Test for Equality of Variances: F= 2.146 P= .144

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.77	408	.000	.160	(.289, .918)
Unequal	3.78	407.30	.000	.160	(.290, .918)

Variable	Number of Cases	Mean	SD	SE of Mean
S_INDULG Seabrook-"An indulgent product"				
Curr	213	5.2113	1.645	.113
Test	202	4.6584	1.704	.120

Mean Difference = .5529

Levene's Test for Equality of Variances: F= .574 P= .449

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.36	413	.001	.164	(.230, .876)
Unequal	3.36	409.80	.001	.165	(.229, .876)

Appendix
Table 3
SEABROOKS

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_DIFFTA Seabrook-"Different taste"				
Curr	207	4.3430	1.777	.124
Test	202	3.9257	1.630	.115

Mean Difference = .4173

Levene's Test for Equality of Variances: F= 4.652 P= .032

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.47	407	.014	.169	(.086, .749)
Unequal	2.48	405.44	.014	.169	(.086, .749)

Variable	Number of Cases	Mean	SD	SE of Mean
S_FORKID Seabrook-"For kids"				
Curr	210	3.5238	1.458	.101
Test	204	3.8627	1.228	.086

Mean Difference = -.3389

Levene's Test for Equality of Variances: F= 15.353 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-2.55	412	.011	.133	(-.600, -.078)
Unequal	-2.56	403.92	.011	.132	(-.599, -.079)

Equal	-2.55	412	.011	.133	(-.600, -.078)
Unequal	-2.56	403.92	.011	.132	(-.599, -.079)

Appendix
Table 3
SEABROOKS

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_DIFFTA Seabrook-"Different taste"				
Curr	207	4.3430	1.777	.124
Test	202	3.9257	1.630	.115

Mean Difference = .4173

Levene's Test for Equality of Variances: F= 4.652 P= .032

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.47	407	.014	.169	(.086, .749)
Unequal	2.48	405.44	.014	.169	(.086, .749)

Variable	Number of Cases	Mean	SD	SE of Mean
S_FORKID Seabrook-"For kids"				
Curr	210	3.5238	1.458	.101
Test	204	3.8627	1.228	.086

Mean Difference = -.3389

Levene's Test for Equality of Variances: F= 15.353 P= .000

t-test for Equality of Means					95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_QUAL Seabrook-"A quality product"				
Curr	213	4.5869	1.601	.110
Test	203	3.7537	1.518	.107

Mean Difference = .8332

Levene's Test for Equality of Variances: F= 1.316 P= .252

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.44	414	.000	.153	(.532, 1.134)
Unequal	5.45	413.99	.000	.153	(.532, 1.134)

Variable	Number of Cases	Mean	SD	SE of Mean
S_ROTATI S-Rotation				
Curr	220	1.0000	.000	.000
Test	215	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_SEENEA Seabrook-"Would be seen eating them"				
Curr	212	4.2547	2.000	.137
Test	205	3.7268	1.772	.124

Mean Difference = .5279

Levene's Test for Equality of Variances: F= 7.158 P= .008

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.85	415	.005	.185	(.164, .892)
Unequal	2.85	411.88	.005	.185	(.164, .891)

Variable	Number of Cases	Mean	SD	SE of Mean
S_SPECIA Seabrook-"For special occasions"				
Curr	209	5.6029	1.617	.112
Test	199	5.2613	1.583	.112

Mean Difference = .3416

Levene's Test for Equality of Variances: F= .000 P= .993

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.15	406	.032	.159	(.030, .653)
Unequal	2.16	405.68	.032	.158	(.030, .653)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_GTASTE Seabrook-"Good taste"				
Curr	209	4.3349	1.682	.116
Test	201	3.7313	1.552	.109

Mean Difference = .6036

Levene's Test for Equality of Variances: F= 2.146 P= .144

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.77	408	.000	.160	(.289, .918)
Unequal	3.78	407.30	.000	.160	(.290, .918)

Variable	Number of Cases	Mean	SD	SE of Mean
S_INDULG Seabrook-"An indulgent product"				
Curr	213	5.2113	1.645	.113
Test	202	4.6584	1.704	.120

Mean Difference = .5529

Levene's Test for Equality of Variances: F= .574 P= .449

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.36	413	.001	.164	(.230, .876)
Unequal	3.36	409.80	.001	.165	(.229, .876)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_NICE Seabrook-"Would be very nice"				
Curr	212	3.9481	1.804	.124
Test	206	3.5291	1.494	.104

Mean Difference = .4190

Levene's Test for Equality of Variances: F= 8.874 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.58	416	.010	.162	(.100, .738)
Unequal	2.59	405.85	.010	.162	(.101, .737)

Variable	Number of Cases	Mean	SD	SE of Mean
S_PACKDI Seabrook-"Pack looks different"				
Curr	208	4.9904	1.926	.134
Test	205	4.0439	1.911	.133

Mean Difference = .9465

Levene's Test for Equality of Variances: F= .551 P= .458

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	5.01	411	.000	.189	(.575, 1.318)
Unequal	5.01	410.98	.000	.189	(.575, 1.318)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_STRONG Seabrook-"Strong flavour"				
Curr	206	4.0291	1.821	.127
Test	202	3.5000	1.383	.097

Mean Difference = .5291

Levene's Test for Equality of Variances: F= 14.919 P= .000

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.30	406	.001	.160	(.214, .844)
Unequal	3.31	382.23	.001	.160	(.215, .844)

T-TESTS

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_SPECIA Roysters-"For special occasions"				
Curr	78	4.7436	1.607	.182
Test	76	4.5526	1.684	.193

Mean Difference = .1910

Levene's Test for Equality of Variances: F= .335 P= .564

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.72	152	.473	.265	(-.333, .715)
Unequal	.72	151.19	.473	.265	(-.333, .715)

Variable	Number of Cases	Mean	SD	SE of Mean
R_STRONG Roysters-"Strong flavour"				
Curr	76	3.1316	1.544	.177
Test	77	3.2597	1.542	.176

Mean Difference = -.1282

Levene's Test for Equality of Variances: F= .491 P= .485

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.51	151	.608	.249	(-.621, .365)
Unequal	-.51	150.97	.608	.249	(-.621, .365)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_QUAL Roysters-"A quality product"				
Curr	82	3.6829	1.586	.175
Test	77	3.2597	1.371	.156

Mean Difference = .4232

Levene's Test for Equality of Variances: F= 1.697 P= .195

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.79	157	.075	.236	(-.043, .889)
Unequal	1.80	155.95	.073	.235	(-.040, .887)

Variable	Number of Cases	Mean	SD	SE of Mean
R_SEENEA Roysters-"Would be seen eating them"				
Curr	81	3.7778	1.817	.202
Test	76	3.5000	1.465	.168

Mean Difference = .2778

Levene's Test for Equality of Variances: F= 2.649 P= .106

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.05	155	.295	.264	(-.245, .800)
Unequal	1.06	151.64	.292	.263	(-.241, .797)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_NICE Roysters-"Would be very nice"				
Curr	81	4.0741	1.555	.173
Test	76	3.5395	1.604	.184

Mean Difference = .5346

Levene's Test for Equality of Variances: F= .376 P= .540

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.12	155	.036	.252	(.036, 1.033)
Unequal	2.12	153.62	.036	.252	(.036, 1.033)

Variable	Number of Cases	Mean	SD	SE of Mean
R_PACKDI Roysters-"Pack looks different"				
Curr	80	3.6125	1.818	.203
Test	77	3.6104	1.741	.198

Mean Difference = .0021

Levene's Test for Equality of Variances: F= .033 P= .856

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.01	155	.994	.284	(-.559, .564)
Unequal	.01	155.00	.994	.284	(-.559, .563)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_GTASTE Roysters-"Good taste"				
Curr	75	4.0133	1.529	.177
Test	77	3.6234	1.442	.164

Mean Difference = .3900

Levene's Test for Equality of Variances: F= .006 P= .938

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.62	150	.108	.241	(-.086, .866)
Unequal	1.62	148.93	.108	.241	(-.087, .867)

Variable	Number of Cases	Mean	SD	SE of Mean
R_INDULG Roysters-"An indulgent product"				
Curr	79	4.3291	1.525	.172
Test	77	4.2468	1.532	.175

Mean Difference = .0824

Levene's Test for Equality of Variances: F= .013 P= .911

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.34	154	.737	.245	(-.401, .566)
Unequal	.34	153.86	.737	.245	(-.401, .566)

Appendix
Table 5

t-tests for Independent Samples of ROTATION
Current or Test Pack Set

Comparison of rating scales
ROYSTERS

NON TRAILISTS OF BRAND

Variable	Number of Cases	Mean	SD	SE of Mean
R_DIFFTA Roysters-"Different taste"				
Curr	76	3.4605	1.637	.188
Test	77	3.4416	1.509	.172

Mean Difference = .0190

Levene's Test for Equality of Variances: F= .364 P= .547

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.07	151	.941	.254	(-.484, .522)
Unequal	.07	149.67	.941	.255	(-.484, .522)

Variable	Number of Cases	Mean	SD	SE of Mean
R_FORKID Roysters-"For kids"				
Curr	80	4.6250	1.296	.145
Test	77	4.1169	1.513	.172

Mean Difference = .5081

Levene's Test for Equality of Variances: F= .870 P= .352

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.26	155	.025	.225	(.065, .952)
Unequal	2.26	149.53	.026	.225	(.063, .953)

Appendix
Table 6

t-tests for Independent Samples of ROTATION
Current or Test Pack Set

Comparison of rating scales
SEABROOKS

Variable	Number of Cases	Mean	SD	SE of Mean
S_DIFFTA Seabrook-"Different taste"				
Curr	78	4.5256	1.814	.205
Test	72	3.9306	1.647	.194

Mean Difference = .5951

Levene's Test for Equality of Variances: F= 2.292 P= .132

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	2.10	148	.038	.284	(.034, 1.156)
Unequal	2.11	147.96	.037	.283	(.037, 1.154)

Variable	Number of Cases	Mean	SD	SE of Mean
S_FORKID Seabrook-"For kids"				
Curr	79	3.3165	1.706	.192
Test	72	3.9167	1.264	.149

Mean Difference = -.6002

Levene's Test for Equality of Variances: F= 15.502 P= .000

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-2.44	149	.016	.246	(-1.087, -.113)
Unequal	-2.47	143.20	.015	.243	(-1.081, -.120)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_GTASTE Seabrook-"Good taste"				
Curr	80	4.6875	1.747	.195
Test	71	3.8732	1.647	.195

Mean Difference = .8143

Levene's Test for Equality of Variances: F= .445 P= .506

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.94	149	.004	.277	(.266, 1.362)
Unequal	2.95	148.45	.004	.276	(.268, 1.360)

Variable	Number of Cases	Mean	SD	SE of Mean
S_INDULG Seabrook-"An indulgent product"				
Curr	81	5.2716	1.725	.192
Test	73	4.6712	1.625	.190

Mean Difference = .6004

Levene's Test for Equality of Variances: F= .262 P= .609

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.22	152	.028	.271	(.065, 1.135)
Unequal	2.22	151.69	.028	.270	(.067, 1.134)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_NICE Seabrook-"Would be very nice"				
Curr	80	4.3500	1.949	.218
Test	74	3.6486	1.617	.188

Mean Difference = .7014

Levene's Test for Equality of Variances: F= 4.902 P= .028

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.42	152	.017	.290	(.129, 1.274)
Unequal	2.44	150.26	.016	.288	(.133, 1.270)

Variable	Number of Cases	Mean	SD	SE of Mean
S_PACKDI Seabrook-"Pack looks different"				
Curr	78	4.8846	1.947	.220
Test	73	4.0000	1.951	.228

Mean Difference = .8846

Levene's Test for Equality of Variances: F= .022 P= .883

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.79	149	.006	.317	(.257, 1.512)
Unequal	2.79	148.30	.006	.317	(.257, 1.512)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_ROTATI S-Rotation				
Curr	84	1.0000	.000	.000
Test	77	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable	Number of Cases	Mean	SD	SE of Mean
S_SEENEA Seabrook-"Would be seen eating them"				
Curr	80	4.6625	1.955	.219
Test	73	3.8904	1.768	.207

Mean Difference = .7721

Levene's Test for Equality of Variances: F= 3.573 P= .061

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.55	151	.012	.302	(.175, 1.370)
Unequal	2.57	150.99	.011	.301	(.177, 1.367)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_SPECIA Seabrook-"For special occasions"				
Curr	80	5.7250	1.630	.182
Test	70	4.9571	1.498	.179

Mean Difference = .7679

Levene's Test for Equality of Variances: F= .016 P= .899

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.99	148	.003	.257	(.260, 1.276)
Unequal	3.01	147.63	.003	.256	(.263, 1.273)

Variable	Number of Cases	Mean	SD	SE of Mean
S_STRONG Seabrook-"Strong flavour"				
Curr	78	4.2179	1.991	.225
Test	72	3.6111	1.488	.175

Mean Difference = .6068

Levene's Test for Equality of Variances: F= 9.338 P= .003

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.10	148	.037	.289	(.036, 1.178)
Unequal	2.12	141.97	.035	.286	(.042, 1.171)

Appendix
Table 7

t-tests for Independent Samples of ROTATION
Current or Test Pack Set

Comparison of rating scales
SEABROOKS

NON TRIALISTS OF BRAND

Variable	Number of Cases	Mean	SD	SE of Mean
S_DIFFTA Seabrook-"Different taste"				
Curr	102	4.7549	1.771	.175
Test	123	4.0976	1.533	.138

Mean Difference = .6573

Levene's Test for Equality of Variances: F= 5.573 P= .019

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.98	223	.003	.220	(.223, 1.092)
Unequal	2.94	201.21	.004	.223	(.217, 1.098)

Variable	Number of Cases	Mean	SD	SE of Mean
S_FORKID Seabrook-"For kids"				
Curr	103	3.5243	1.644	.162
Test	124	3.8306	1.311	.118

Mean Difference = -.3064

Levene's Test for Equality of Variances: F= 11.685 P= .001

	t-test for Equality of Means				
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.56	225	.120	.196	(-.693, .080)
Unequal	-1.53	193.46	.128	.200	(-.701, .089)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_SPECIA Seabrook-"For special occasions"				
Curr	101	5.7723	1.555	.155
Test	120	5.2667	1.494	.136

Mean Difference = .5056

Levene's Test for Equality of Variances: F= .027 P= .869

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.46	219	.015	.206	(.101, .911)
Unequal	2.45	209.47	.015	.206	(.099, .912)

Variable	Number of Cases	Mean	SD	SE of Mean
S_STRONG Seabrook-"Strong flavour"				
Curr	100	4.6300	1.631	.163
Test	123	3.6829	1.381	.125

Mean Difference = .9471

Levene's Test for Equality of Variances: F= 5.027 P= .026

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.70	221	.000	.202	(.550, 1.345)
Unequal	4.62	194.44	.000	.205	(.542, 1.352)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable		Number of Cases	Mean	SD	SE of Mean
S_ROTATI	S-Rotation				
Curr		112	1.0000	.000	.000
Test		133	2.0000	.000	.000

>Warning # 11833. Command name: T-TEST
>The standard deviations of both groups are 0. This analysis cannot be
>performed.

Variable		Number of Cases	Mean	SD	SE of Mean
S_SEENEA	Seabrook-"Would be seen eating them"				
Curr		106	5.1038	1.815	.176
Test		125	4.0080	1.744	.156

Mean Difference = 1.0958

Levene's Test for Equality of Variances: F= 2.452 P= .119

t-test for Equality of Means					
Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.67	229	.000	.235	(.634, 1.558)
Unequal	4.66	219.72	.000	.235	(.632, 1.560)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_NICE Seabrook-"Would be very nice"				
Curr	105	4.6190	1.762	.172
Test	126	3.7143	1.391	.124

Mean Difference = .9048

Levene's Test for Equality of Variances: F= 10.146 P= .002

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.36	229	.000	.207	(.496, 1.314)
Unequal	4.27	196.06	.000	.212	(.487, 1.323)

Variable	Number of Cases	Mean	SD	SE of Mean
S_PACKDI Seabrook-"Pack looks different"				
Curr	101	5.2277	1.933	.192
Test	125	4.2720	1.902	.170

Mean Difference = .9557

Levene's Test for Equality of Variances: F= .024 P= .878

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.73	224	.000	.256	(.450, 1.461)
Unequal	3.72	212.69	.000	.257	(.449, 1.462)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
S_GTASTE Seabrook-"Good taste"				
Curr	102	4.9804	1.535	.152
Test	122	4.0820	1.406	.127

Mean Difference = .8984

Levene's Test for Equality of Variances: F= 1.839 P= .176

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	4.57	222	.000	.197	(.511, 1.286)
Unequal	4.53	207.26	.000	.198	(.508, 1.289)

Variable	Number of Cases	Mean	SD	SE of Mean
S_INDULG Seabrook-"An indulgent product"				
Curr	105	5.4571	1.581	.154
Test	125	4.7920	1.567	.140

Mean Difference = .6651

Levene's Test for Equality of Variances: F= .040 P= .842

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	3.19	228	.002	.208	(.255, 1.076)
Unequal	3.19	220.52	.002	.208	(.254, 1.076)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_SPECIA Roysters-"For special occasions"				
Curr	212	4.8538	1.503	.103
Test	210	4.8000	1.642	.113

Mean Difference = .0538

Levene's Test for Equality of Variances: F= 3.571 P= .059

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.35	420	.726	.153	(-.247, .355)
Unequal	.35	416.01	.726	.153	(-.248, .355)

Variable	Number of Cases	Mean	SD	SE of Mean
R_STRONG Roysters-"Strong flavour"				
Curr	211	3.1090	1.550	.107
Test	213	3.1549	1.578	.108

Mean Difference = -.0459

Levene's Test for Equality of Variances: F= .693 P= .406

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.30	422	.763	.152	(-.345, .253)
Unequal	-.30	421.97	.763	.152	(-.345, .253)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_QUAL Roysters-"A quality product"				
Curr	218	3.4404	1.557	.105
Test	212	3.1840	1.421	.098

Mean Difference = .2564

Levene's Test for Equality of Variances: F= 3.423 P= .065

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	1.78	428	.075	.144	(-.026, .539)
Unequal	1.79	426.30	.075	.144	(-.026, .539)

Variable	Number of Cases	Mean	SD	SE of Mean
R_SEENEA Roysters-"Would be seen eating them"				
Curr	215	3.3721	1.748	.119
Test	211	3.2607	1.581	.109

Mean Difference = .1114

Levene's Test for Equality of Variances: F= 4.461 P= .035

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.69	424	.491	.162	(-.206, .429)
Unequal	.69	421.18	.490	.161	(-.206, .429)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_NICE Roysters-"Would be very nice"				
Curr	217	3.4977	1.675	.114
Test	213	3.1972	1.668	.114

Mean Difference = .3005

Levene's Test for Equality of Variances: F= .073 P= .787

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.86	428	.063	.161	(-.016, .617)
Unequal	1.86	427.91	.063	.161	(-.016, .617)

Variable	Number of Cases	Mean	SD	SE of Mean
R_PACKDI Roysters-"Pack looks different"				
Curr	215	3.5628	1.670	.114
Test	213	3.6761	1.620	.111

Mean Difference = -.1133

Levene's Test for Equality of Variances: F= .477 P= .490

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.71	426	.477	.159	(-.426, .199)
Unequal	-.71	425.82	.477	.159	(-.426, .199)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
R_GTASTE Roysters-"Good taste"				
Curr	211	3.5640	1.682	.116
Test	211	3.4550	1.616	.111

Mean Difference = .1090

Levene's Test for Equality of Variances: F= .698 P= .404

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.68	420	.498	.161	(-.207, .425)
Unequal	.68	419.33	.498	.161	(-.207, .425)

Variable	Number of Cases	Mean	SD	SE of Mean
R_INDULG Roysters-"An indulgent product"				
Curr	215	4.2605	1.567	.107
Test	211	4.1896	1.645	.113

Mean Difference = .0709

Levene's Test for Equality of Variances: F= .083 P= .773

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.46	424	.649	.156	(-.235, .377)
Unequal	.46	422.08	.649	.156	(-.235, .377)

Appendix
Table 4

t-tests for Independent Samples of ROTATION
Current or Test Pack Set

Comparison of rating scales
ROYSTERS

Variable	Number of Cases	Mean	SD	SE of Mean
R_DIFFTA Roysters-"Different taste"				
Curr	209	3.2679	1.577	.109
Test	214	3.5000	1.591	.109

Mean Difference = -.2321

Levene's Test for Equality of Variances: F= .168 P= .682

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.51	421	.133	.154	(-.535, .071)
Unequal	-1.51	420.91	.133	.154	(-.535, .071)

Variable	Number of Cases	Mean	SD	SE of Mean
R_FORKID Roysters-"For kids"				
Curr	214	4.4766	1.244	.085
Test	213	4.1878	1.336	.092

Mean Difference = .2888

Levene's Test for Equality of Variances: F= .021 P= .884

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	2.31	425	.021	.125	(.043, .534)
Unequal	2.31	422.53	.021	.125	(.043, .534)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
W_SPECIA Walkers-"For special occasions"				
Curr	218	5.6147	1.714	.116
Test	212	5.5236	1.830	.126

Mean Difference = .0911

Levene's Test for Equality of Variances: F= 1.871 P= .172

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.53	428	.594	.171	(-.245, .427)
Unequal	.53	424.30	.595	.171	(-.245, .427)

Variable	Number of Cases	Mean	SD	SE of Mean
W_STRONG Walkers-"Strong flavour"				
Curr	215	3.6837	1.589	.108
Test	213	3.7183	1.766	.121

Mean Difference = -.0346

Levene's Test for Equality of Variances: F= 5.090 P= .025

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.21	426	.831	.162	(-.354, .285)
Unequal	-.21	420.50	.831	.162	(-.354, .285)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
W_QUAL Walkers-"A quality product"				
Curr	216	2.2870	1.197	.081
Test	214	2.2336	1.187	.081

Mean Difference = .0534

Levene's Test for Equality of Variances: F= .000 P= .995

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.46	428	.643	.115	(-.173, .279)
Unequal	.46	428.00	.643	.115	(-.173, .279)

Variable	Number of Cases	Mean	SD	SE of Mean
W_SEENEA Walkers-"Would be seen eating them"				
Curr	217	2.2719	1.435	.097
Test	211	2.4739	1.439	.099

Mean Difference = -.2020

Levene's Test for Equality of Variances: F= .113 P= .737

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-1.45	426	.147	.139	(-.475, .071)
Unequal	-1.45	425.61	.147	.139	(-.475, .071)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
W_NICE Walkers-"Would be very nice"				
Curr	216	2.3657	1.326	.090
Test	211	2.4028	1.364	.094

Mean Difference = -.0371

Levene's Test for Equality of Variances: F= .045 P= .831

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.28	425	.776	.130	(-.293, .219)
Unequal	-.28	423.87	.776	.130	(-.293, .219)

Variable	Number of Cases	Mean	SD	SE of Mean
W_PACKDI Walkers-"Pack looks different"				
Curr	217	4.8802	1.709	.116
Test	209	4.8660	1.741	.120

Mean Difference = .0142

Levene's Test for Equality of Variances: F= .952 P= .330

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.08	424	.933	.167	(-.314, .343)
Unequal	.08	422.67	.933	.167	(-.315, .343)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
W_GTASTE Walkers-"Good taste"				
Curr	218	2.4450	1.378	.093
Test	211	2.4597	1.408	.097

Mean Difference = -.0148

Levene's Test for Equality of Variances: F= .046 P= .830

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.11	427	.913	.135	(-.279, .250)
Unequal	-.11	425.73	.913	.135	(-.279, .250)

Variable	Number of Cases	Mean	SD	SE of Mean
W_INDULG Walkers-"An indulgent product"				
Curr	218	4.5138	1.975	.134
Test	211	4.6256	2.030	.140

Mean Difference = -.1118

Levene's Test for Equality of Variances: F= .596 P= .440

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.58	427	.563	.193	(-.492, .268)
Unequal	-.58	425.46	.564	.193	(-.492, .268)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
W_DIFFTA Walkers-"Different taste"				
Curr	216	4.3611	1.679	.114
Test	211	4.5024	1.868	.129

Mean Difference = -.1413

Levene's Test for Equality of Variances: F= 5.282 P= .022

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	-.82	425	.411	.172	(-.479, .196)
Unequal	-.82	417.96	.412	.172	(-.479, .197)

Variable	Number of Cases	Mean	SD	SE of Mean
W_FORKID Walkers-"For kids"				
Curr	216	3.7407	1.128	.077
Test	209	3.6364	1.194	.083

Mean Difference = .1044

Levene's Test for Equality of Variances: F= 1.840 P= .176

	t-test for Equality of Means				95%
Variances	t-value	df	2-Tail Sig	SE of Diff	CI for Diff
Equal	.93	423	.355	.113	(-.117, .326)
Unequal	.93	419.63	.355	.113	(-.117, .326)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
M_SPECIA McCoys-"For special occasions"				
Curr	214	4.9953	1.637	.112
Test	204	4.9804	1.756	.123

Mean Difference = .0149

Levene's Test for Equality of Variances: F= .555 P= .457

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.09	416	.928	.166	(-.311, .341)
Unequal	.09	410.32	.928	.166	(-.312, .342)

Variable	Number of Cases	Mean	SD	SE of Mean
M_STRONG McCoys-"Strong flavour"				
Curr	216	2.6944	1.308	.089
Test	212	2.6557	1.284	.088

Mean Difference = .0388

Levene's Test for Equality of Variances: F= .029 P= .864

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.31	426	.757	.125	(-.208, .285)
Unequal	.31	426.00	.757	.125	(-.207, .285)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
M_QUAL McCoys- "A quality product"				
Curr	218	2.3394	1.134	.077
Test	211	2.3318	1.071	.074

Mean Difference = .0077

Levene's Test for Equality of Variances: F= .226 P= .635

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.07	427	.942	.107	(-.202, .217)
Unequal	.07	426.75	.942	.106	(-.202, .217)

Variable	Number of Cases	Mean	SD	SE of Mean
M_SEENEA McCoys-"Would be seen eating them"				
Curr	220	2.9091	1.398	.094
Test	211	2.7346	1.475	.102

Mean Difference = .1745

Levene's Test for Equality of Variances: F= 1.998 P= .158

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	1.26	429	.208	.138	(-.098, .447)
Unequal	1.26	425.13	.209	.139	(-.098, .447)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
M_NICE McCoys-"Would be very nice"				
Curr	220	2.6773	1.341	.090
Test	211	2.7204	1.391	.096

Mean Difference = -.0431

Levene's Test for Equality of Variances: F= .842 P= .359

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.33	429	.743	.132	(-.302, .216)
Unequal	-.33	426.39	.744	.132	(-.302, .216)

Variable	Number of Cases	Mean	SD	SE of Mean
M_PACKDI McCoys-"Pack looks different"				
Curr	214	3.6215	1.340	.092
Test	211	3.7014	1.380	.095

Mean Difference = -.0799

Levene's Test for Equality of Variances: F= .243 P= .622

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.61	423	.545	.132	(-.339, .179)
Unequal	-.61	422.18	.545	.132	(-.339, .179)

t-tests for Independent Samples of ROTATION Current or Test Pack Set

Variable	Number of Cases	Mean	SD	SE of Mean
M_GTASTE McCoys-"Good taste"				
Curr	217	2.5991	1.183	.080
Test	210	2.6810	1.351	.093

Mean Difference = -.0819

Levene's Test for Equality of Variances: F= 3.131 P= .078

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.67	425	.505	.123	(-.323, .159)
Unequal	-.67	413.73	.506	.123	(-.324, .160)

Variable	Number of Cases	Mean	SD	SE of Mean
M_INDULG McCoys-"An indulgent product"				
Curr	217	3.7143	1.596	.108
Test	212	3.7830	1.558	.107

Mean Difference = -.0687

Levene's Test for Equality of Variances: F= .108 P= .743

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.45	427	.652	.152	(-.368, .231)
Unequal	-.45	427.00	.652	.152	(-.368, .231)

Appendix
Table 3

t-tests for Independent Samples of ROTATION
Current or Test Pack Set

Comparison of rating scales for control brands

Variable	Number of Cases	Mean	SD	SE of Mean
M_DIFFTA McCoys-"Different taste"				
Curr	218	3.4633	1.230	.083
Test	213	3.5211	1.312	.090

Mean Difference = -.0578

Levene's Test for Equality of Variances: F= 1.021 P= .313

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	-.47	429	.637	.122	(-.299, .183)
Unequal	-.47	425.70	.637	.123	(-.299, .183)

Variable	Number of Cases	Mean	SD	SE of Mean
M FORKID McCoys-"For kids"				
Curr	217	4.7051	1.307	.089
Test	212	4.5991	1.368	.094

Mean Difference = .1060

Levene's Test for Equality of Variances: F= .498 P= .481

t-test for Equality of Means Variances	t-value	df	2-Tail Sig	SE of Diff	95% CI for Diff
Equal	.82	427	.412	.129	(-.148, .360)
Unequal	.82	424.99	.413	.129	(-.148, .360)